



CITY AND COUNTY OF BRISTOL

ANNUAL REPORTS

OF THE

MEDICAL OFFICER OF HEALTH

(CITY, PORT AND SCHOOL MEDICAL SERVICES)

THE PUBLIC ANALYST

AND THE

MENTAL DEFICIENCY ACTS COMMITTEE

FOR THE YEAR

1935

3904



CONSTITUTION OF COMMITTEES.

The Lord Mayor : C. T. Budgett, Esq., J.P.

Health Committee.

Chairman : Alderman H. J. Maggs, J.P.

Aldermen : W. H. Byrt, J.P., J. E. Jones, J.P., J. J. Milton, J.P., T. J. Wise.
Councillors : L. H. Bateman, E. T. Cozens, J.P., H. S. Evans,
 F. E. Fox, M.R.C.S., L.R.C.P. (Lond.), R. N. Harrison, T. Jefferis,
 Mrs. C. M. Keel, Miss L. Meade-King, J. Owen, V. J. Robinson,
 Sir L. A. Goodenough Taylor, J.P.

With Sub-Committees as follows :—Port Sanitary ; Maternity and Child Welfare ; Public Health Institutions ; Farms & Gardens ; Public Abattoir ; Fried Fish Shops ; Staff ; Assessments ; Pathological ; and representation on Joint Committees for—coordination of medical services ; tuberculosis voluntary care ; contracts ; open spaces ; farms.

Housing.

Chairman : Alderman J. E. Jones, J.P.

Aldermen : F. F. Clothier, J.P., F. Sheppard, J.P.
Councillors : C. S. Baston, C. R. Gill, R. Ashley Hall, A. G. Heard,
 T. Jefferis, H. R. Lee, R. F. Lyne, G. A. Martin, H. A. Wall.

Mental Deficiency.

Chairman : Alderman F. Sheppard, J.P.

Aldermen : W. H. Byrt, J.P., *Councillors* : R. C. Davies, A. F. Moon, J.P.,
 W. H. Nott, W. S. Scull, F. A. Webber, W. T. Wright, *Non-Council
 Members* : F. J. Burgess, Mrs. Nunn, Mrs. Pullen.

The Town Clerk : Josiah Green, Esq.

PUBLIC HEALTH STAFF.

* joint appointment. ** part-time appointment

Medical Officer of Health (City, Port and Schools) :

R. H. Parry, M.D., B.S., M.R.C.P. (Lond.), D.P.H.

Deputy Medical Officer of Health :

A. G. Morison, M.A., M.D., D.P.H.

A.—CLINICS, DISPENSARIES, ETC.

Maternity and child welfare.

Chief assistant	...	...	Marguerite G. Hughes, M.B., Ch.B. Greta Hartley, M.D., M.M. Alison A. Craig, M.B., B.S., D.P.H., D.C.H. Doris M. Pullen, M.B., Ch.B.** Mildred B. Bruce Perry, M.B., Ch.B.** H. L. Shepherd, Ch.M., M.B.** Lily A. Baker, B.A., M.B., Ch.B., F.R.C.S.I.**
Principal sister	...	...	Miss L. Elkins*
Inspector of midwives and nursing homes	...	...	Miss W. M. Richards
Superintendent health visitor			Miss I. M. Ralph. 24 health visitors. 6 probationer health visitors.

Tuberculosis.

Tuberculosis officer	C. J. Campbell Faill, F.R.C.P. Ed. J. Scott Currie, M.B., Ch.B. 3 dispensary nurses ; 1 X-ray operator ; 1 dispenser**
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Venereal disease.

Medical director	S. Hardy Kingston, M.B., Ch.B., D.P.H.** 4 assistant medical officers**
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School medical service—(under Education Committee).

For detailed staff see sectional report.

B.—DEPARTMENT OF PREVENTIVE MEDICINE, UNIVERSITY OF BRISTOL.

Professor	R. H. Parry, M.D., B.S., M.R.C.P., D.P.H.
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Pathological and Bacteriological Division.

Director	I. Walker Hall, M.D., Ch.B.
Senior pathological officer	...	...	J. D. A. Gray, M.B., Ch.B., B.Sc., F.R.C.P.
Junior pathologist	...	...	Doris M. Stone, M.D., D.P.H.
Asst. bacteriologist	...	...	Grizel R. Borthwick, B.Sc., Ph.D.
Serologist	...	...	F. Nichols.

Chemical Division.

Public analyst	...	...	F. E. Needs, F.I.C.
Senior assistant	...	...	F. Beach, M.A., B.Sc., F.I.C.
Junior assistant	...	...	I. Dembery, B.Sc., A.I.C.
Temporary assistant	...	...	Alexander R. P. Walker, B.Sc.

PUBLIC HEALTH STAFF

(continued).

C.—PORT SANITARY AUTHORITY.

For detailed staff see sectional report.

D.—HOSPITALS, SANATORIA AND INSTITUTIONS.

Specialist staff.

Consultant physicians :

General	Emeritus Professor J. A. Nixon, C.M.G., B.A., M.D., F.R.C.P. (Lond.) Professor C. Bruce Perry, M.D., F.R.C.P. (Lond.)
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Children's diseases	...	O. C. M. Davis, M.D., D.Sc., M.R.C.P.
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Consultant surgeons :

Orthopaedic	...	G. R. Girdlestone, M.A., F.R.C.S. Eng. Emeritus Professor E. W. Hey Groves, M.D., D.Sc., M.S., F.R.C.S. Eng.
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Surgeons—Genito-urinary	...	A. W. Adams, M.B., M.S., F.R.C.S.
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General	...	R. V. Cooke, M.B., F.R.C.S. Eng.
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Orthopaedic	...	H. Chitty, M.S., F.R.C.S. Eng.
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	...	K. H. Pridie, M.B., B.S., F.R.C.S. Eng.
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Ear, nose and throat diseases	...	G. R. Scarff, M.B., F.R.C.S., Edin.
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Gynaecology & obstetrics	...	H. J. Drew Smythe, M.C., M.D., M.S., F.R.C.S., F.C.O.G., M.M.S.A.
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Ophthalmology	...	R. R. Garden, M.A., M.B., Ch.B., D.O.M.S.
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Skin diseases	...	N. Burgess, M.A., M.D., B.C., M.R.C.P.
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Radiology	...	T. B. Wansbrough, M.B., Ch.B.
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Dental surgery	...	G. F. Fawn, L.D.S., B.D.S., M.R.C.S., L.R.C.P.
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Ham Green Hospital and Sanatorium.

Medical superintendent	...	B. A. I. Peters, B.A., M.D., D.P.H.
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Senior assistant medical officer		B. J. Boulton, M.B., Ch.B.
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		Iris M. Cullum, M.B., B.S.
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		R. V. Havard, M.R.C.S., L.R.C.P.
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Matron	...	Miss K. M. Baldwin
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Novers Hill Hospital.

Home sister	...	Miss E. E. Lane.
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Nursing superintendent	...	Miss E. B. Wilcox.
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Southmead Hospital.

Medical superintendent	...	P. Phillips, M.Sc., M.D., Ch.B.
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Senior assistant medical officer		N. L. Price, M.D., Ch.B.
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		D. T. Davies, M.R.C.S., L.R.C.P.
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		R. M. Brown, M.B., Ch.B.
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		F. C. Collingwood, M.B., Ch.B.
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Matron	...	Miss M. E. Price
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Steward	...	F. D. Sainsbury, R.S.I.
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Frenchay Park Sanatorium and Orthopaedic Hospital.

Resident medical officer	...	Margaret J. Jenkins, M.B., Ch.B.
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Matron	...	Miss L. Allen.
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Babies Home, Downend.

Medical officer	...	G. Hartley, M.D., M.M.*
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Matron	...	Miss M. Sanders.
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*Administered by Public Assistance Committee.**Stapleton Institution.*

Medical superintendent	...	S. Datta, M.D.
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PUBLIC HEALTH STAFF*(continued).**Eastville Institution.*

Medical superintendent ... J. A. L. Roberts, M.B., B.S.

*Administered by Mental Deficiency Committee.**Hortham Colony.*Medical superintendent ... J. F. Lyons, L.R.C.P.I. & L.M., D.P.H.,
D.P.M.**D.—OTHER MEDICAL STAFF.***Mental deficiency certifying officers.***Dr. A. A. Dalby }
Dr. A. F. Alford } under Education Act, 1921.Dr. M. A. O'Donohoe }
Dr. C. D. Preston }
Dr. L. Roberts }
Dr. D. Hall Beatson } under Mental Deficiency Acts, 1913-1927.
Dr. Elizabeth Casson }
Dr. J. Odery Symes }
Dr. J. M. Evans, J.R. }*Public vaccinators.***Dr. G. L. Foss
Dr. H. Hope Scott
Dr. J. A. L. Roberts
Dr. H. J. Newlands
Dr. E. U. Bartholomew
Dr. I. Williams
Dr. G. S. Mundy
Dr. S. B. Green*District medical officers under poor law acts.***Dr. J. M. Evans, Jun.
Dr. G. M. Evans
Dr. D. Hall Beatson
Dr. J. A. L. Roberts
Dr. G. L. Foss
Dr. S. B. Green
Dr. F. W. Browne
Dr. G. S. Mundy
Dr. W. I. Paramore
Dr. H. W. Brassington**E.—OTHER PUBLIC HEALTH STAFF.***Sanitation and housing.*Chief sanitary inspector ... J. A. Robinson, F.S.I.A.
Superintendent inspector ... T. J. Cleal.
20 district inspectors ; 2 housing
inspectors ; 4 (3 temp.) assistant inspectors ; 4 ratcatchers.*Food inspection.*Veterinary Surgeon ... G. E. Henson, M.R.C.V.S.**
4 food inspectors ; 2 food, drugs and
poisons inspectors.*Mental deficiency acts.*Supervising officer ... W. E. Price.
2 domiciliary visitors ; 10 occupation
centre instructors, etc.*Clerical staff.*Chief clerk and vaccination
officer ... C. W. M. Vincent.
Deputy chief clerk ... J. G. Watson
39 clerks ; 7 temporary clerks and
typists.*Miscellaneous services.*Shops Acts inspectors ... 3
Women's welfare worker ... Mrs. N. H. Stott.*
Vaccination officers ... 2
Home nurses for infectious
disease ... 3
Ambulance and disinfecting
service ... 18
Messenger, telephone operator
and caretakers ... 17 (10**)
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CITY AND COUNTY OF BRISTOL.

ANNUAL REPORT, 1935.

My Lord Mayor, Ladies and Gentlemen,

I have the honour to submit my report on the state of the public health and sanitary circumstances of the city for the year 1935.

This report, which is the fiftieth of the series of annual reports, is prepared, in accordance with the statutory obligation in article 14 (3) of the Sanitary Officers Order 1926, on the general lines suggested by the Ministry of Health and is thus limited mainly to a collection of statistics, which it is realised cannot be of general interest, and a record of alterations, improvements, and developments in public health activities during the year. In addition, reports on the work of the port sanitary authority, the school medical service, city hospitals, sanatoria and institutions and the department of preventive medicine are appended. Statutory reports by the public analyst and the Mental Deficiency Acts Committee are also published with this volume.

This introduction is intended to serve as a general commentary on the main features of the year 1935 and to draw attention to problems and difficulties which still await solution. In the body of the report the various health services are dealt with in more detail in their appropriate sections.

Statistics (pp. 17-29).

The vital statistics for Bristol during 1935 indicate better health conditions than ever before. The death rate was 10·79 per thousand which is the lowest rate for many years. More than half the deaths last year (51·4 per cent.) were of people aged sixty-five years and over.

The amount of sickness as indicated by occupation of the municipal hospitals was also less than for many years. At Southmead, for example, the average number of beds occupied throughout the year was only 452 out of a possible 510.

The number of deaths in institutions was 46·5 per cent. of all deaths ; this proportion has been rapidly increasing during the last few years as will be seen from the figures for the last five years :—

1935	...	...	46·5%
1934	...	...	40·4%
1933	...	...	37·0%
1932	...	...	38·9%
1931	...	...	37·6%

There were 38 deaths from road accidents : this is approximately the same number as died from rheumatic fever and diarrhoea and a few more than died of appendicitis. It is approximately one-ninth of the number that died of tuberculosis and one-eighteenth of the number that died of cancer. It is gratifying to note that the conscience of the country is roused by this unnecessary loss of life through road accidents and no expenditure in signs and signals appears too much. It is the health officer's dream to see a similar sensitiveness towards loss of life from diseases, many of which are preventable to-day and many more of which will be preventable one day, but are not prevented.

The infant mortality rate is a new low record for the city, being only 43. This compares with 62 per thousand births for the combined county boroughs. In this connection it is interesting to note the following points :—

- (1) Of the 247 infants that died under one year of age, for every two females, three males died.
- (2) The greatest fall in the number of deaths was on account of the following conditions—
 - (a) Convulsions and prematurity, debility, etc.
A fall in deaths from these conditions indicates greater skill in care and supervision.
 - (b) Bronchitis, pneumonia, measles and whooping cough.
This meant that there was greater freedom from infectious diseases during the year than for some years past.

Compared with fifty years ago, conditions for infant life have vastly improved in our city. If the birth rate then existing in Bristol obtained to-day, there would have been 13,630 babies born last year and not 5,715 as was the case. On the other hand if the death rate of fifty years ago obtained in Bristol 8,000 people would have died last year and not 4,500. Fifty years ago one out of every seven infants under one year died ; last year only one out of every twenty-three died. This meant a saving of 560 infant lives in one year, but one cannot as yet be satisfied with the infant mortality rate when 247 babies died in Bristol last year during their first year of life, and more than half of these were less than one month old. Further, the illegitimate infant death rate is more than double the legitimate.

General provision of health services (pp. 30-47).

Whilst the acreage of open spaces (p. 11) available for the whole city appears to be abundant, yet their distribution makes them inaccessible to a large mass of the people. There is the young mother who has a few minutes to spare and would like to push her perambulator or to take her toddler child for a short walk. Elderly people may also desire to spend a brief time in the open air. There is the worker in the office or in the factory who would like to spend his short midday rest period in the open air to the advantage both

of his employer and of himself. At the present time, in the centre of our city, there is great scarcity of suitable small open spaces easily available, and a joint committee of the various interested committees has been appointed and is considering the problem.

Public baths (p. 46).

A comprehensive report upon all the swimming baths open to the public was prepared by Dr. A. G. Morison, the deputy medical officer of health, in accordance with circular 1503. On the whole, this indicates that the facilities for Bristol are modern and satisfactory.

My personal view, however, is that there is need in the city for more modern open-air baths. These would have the added advantages of being considerably cheaper and so available to the public at a smaller cost.

Ham Green Hospital and Sanatorium (p. 134).

Dr. Peters, the medical superintendent, reports :—

- (a) Diphtheria—extremely satisfactory figures regarding the results of treatment of diphtheria cases, the fatality of the disease being 1·3 per cent. which is the lowest ever recorded in the hospital. This compares with a fatality of 3·8 per cent. amongst fifty-two cases nursed at home.
- (b) Scarlet fever—the increased severity of this disease is to be noted, ten deaths occurring in the hospital.
- (c) Tuberculosis—out of 292 cases admitted to the sanatorium, 101 died. In my report for 1933 (page 7) I drew attention to the fact that 10 per cent. of the patients died within fourteen days of admission. The figures for 1935 show no improvement and we are still being notified of cases of pulmonary tuberculosis when they are in their late stages and when treatment with any hope of success is entirely out of the question.

Frenchay Park Sanatorium and Orthopaedic Hospital (p. 139).

This hospital was built in 1931 for the purpose of nursing tuberculosis of all forms, and 100 beds were provided. During the year 143 cases were admitted but less than half were tubercular. Fifty-five cases were taken in for observation and proved not to be tubercular, whilst twenty were other orthopaedic cases. These facts prove that the accommodation available for tuberculosis in children is more than sufficient to meet the needs of the city. It is for that reason that cases of all types which benefit from open-air treatment may be admitted. If ample residential open-air school accommodation were available, there would be a still smaller demand for the accommodation at Frenchay Park.

Southmead Hospital (p. 141).

Dr. Phillips, the medical superintendent, includes a very interesting report on the work of this hospital. He draws attention to

certain developments that have taken place in the services at the hospital during the year, largely in the nature of improvements in equipment.

The year under review was notable for the small amount of sickness in the city. It will be noticed that the highest number of beds occupied at any time was 494 and that the average left approximately 58 beds (including cots in maternity) empty all the year round. In 1933 for example the average number throughout the year of beds unoccupied was twenty-seven. Such a fall in the number of patient days necessarily affects the cost per patient per week. It must be remembered, however, that the gross cost of the hospital has remained at approximately the same level.

The following table will indicate the changing type of cases treated at the hospital and show the changing nature of the work carried out :—

Patients' stay in hospital :—	1933	1934	1935
Under 4 weeks ...	2,144	2,353	2,591
4—13 weeks ...	785	800	856
13 weeks and over	425	493	375
Total ...	3,354	3,646	3,826

In the maternity section 838 cases were treated which is an increase of 111 on the previous year. There were only two maternal deaths and 29 stillbirths. These statistics are evidence of a remarkably efficient service. In 1932 the accommodation for maternity cases was extended by the occupation of one of the general wards and its adaptability for the purpose. This scheme received the approval of the Council in June and it was thought at that time that this provision, which allowed for 650 maternity cases to be dealt with, would meet the needs of the city for many years. Already this figure has been exceeded by 30 per cent.

There is an urgent need for further accommodation. In addition it is impossible to take on more staff without providing accommodation for them, and this is not possible in the present building, so that a new nurses block is under consideration by the Health Committee. The matter of further maternity accommodation has been considered by the Hospitals' Council and a suggested scheme for the provision of 100 beds has met with their unanimous approval. From time to time petitions have been sent requesting the Health Committee to provide a casualty department in the municipal hospital. The Health Committee has this matter under consideration.

The work carried out at the joint clinic of the Education and Maternity and Child Welfare Committees has increased so that it has been necessary to provide separate rooms for each service. These rooms are scattered throughout the hospital, and now the

facilities can hardly be called a joint clinic. The accommodation provided for this additional work is not satisfactory and the scheme for a new joint clinic is being considered.

Preventive medicine department (p. 153).

Professor Walker Hall contributes a most interesting and instructive report on the work of the department of preventive medicine

The work of this department has grown considerably—31,851 specimens were examined during the year, an increase of nearly 2,000 over last year and of approximately 11,000 over 1933. A special article by the director on the bacterial contents of market eggs and their persistence in confectionery products is included.

I refer to the following matters upon which special comments are made in the body of the report—

Clinic extensions (p. 31).

The appointment of a hospital almoner (p. 36).

Extensions to the infectious disease hospital (p. 37).

Farms and gardens (p. 38).

Medical services for the municipal aerodrome (p. 44).

Shops Acts 1912-34 (p. 44).

Boarded-out tuberculosis cases (p. 111).

Maternity and child welfare (pp. 48-63).

I have already commented upon the statistics regarding infant mortality. With regard to maternal mortality the rate during the year was only 2.51 per thousand births, which is the lowest since 1928. Still, this means the loss of fifteen mothers many of whom could have been saved.

The number of confinements in institutions has now reached 51.1 per cent. of all births. This is approximately 400 more births in institutions in Bristol in 1935 than was the case in 1934.

There were twenty-five cases of ophthalmia neonatorum, or ten less than in the previous years, and no cases of blindness occurred as a result. This is still further evidence of the greater skill and care with which babies are cared for.

Two very important developments in our maternity and child welfare scheme should be referred to—

(1) The appropriation of the Babies' Home at Downend from the Public Assistance Committee, which was referred to in my report last year has been a great success. Accommodation is provided for 60 infants and during the year 22 Health Committee cases were admitted for a course of treatment for nutritional disturbances or debility. In all cases remarkable progress was made after a short stay in the Home. It is safe to say that this is one of the most progressive steps taken by the council for care of the 'under fives' in the city, in recent years. Residential accommodation is provided under supervision of skilled doctors for infants under five years of age that require it for a period of observation. These children are in the first instance seen at our infant welfare centres.

(2) An arrangement has been made whereby the medical superintendent at Southmead Hospital keeps in close touch with all the ante-natal clinics in the city. Dr. Phillips has specialised in maternity work. Arrangements have been made for him to see all cases that are booked for confinement in the maternity wards at Southmead Hospital at least once during their ante-natal treatment in consultation with the medical officer in charge of the clinic. Where cases of difficulty are diagnosed in the ante-natal clinics and are booked for Southmead Hospital, they are at once referred to a special consultative clinic which Dr. Phillips attends at Southmead.

Housing (p. 74).

Satisfactory progress has been maintained in the five-year plan adopted in 1933 in regard both to clearance areas and to individual demolition orders. Up to the end of 1935 action had been taken by the Council in regard to 105 clearance areas (1,567 houses) and 239 individual houses involving 9,202 people.

Much attention is still paid to the question of repairs and no house is condemned if it is at all possible to repair it at reasonable expense. The total number of houses repaired under the Act following formal and informal notices from August, 1930, to the end of 1935 was :—

Formal.	Informal.	Total.
838	890	1,728

Overcrowding survey.

Detailed comments and tables concerning the overcrowding survey, imposed upon local authorities by section 1 of the Housing Act, 1935 are found on page 77. Of the 93,812 dwelling houses, as defined in the Act, that were surveyed, 1,962 (2·09 per cent.) proved to be overcrowded. In addition there were 429 'border-line' houses which will become overcrowded by December 1937 if the occupants remain unchanged. Of 13,328 Corporation-owned houses included in the survey 652 (4·89 per cent.) were overcrowded whilst in prospective clearance areas the percentage of overcrowding was 6·06.

Inspection and supervision of food (pp. 81-92).

An account is given on page 82 of some of the difficulties met with in connection with bulk examination of milk for tubercle bacilli. As will be seen from this account, in several instances tubercle bacilli were obtained from the milk, and the focus of the disease germs was not removed until infected milk had been supplied to and consumed by the public of the city, including children, for periods ranging from two to six months. Whilst, in the present circumstances, bulk examination seems to be our only method of protecting the community against the dangerous loose milk, it is much too slow a method to be efficient. Once again this further evidence confirms our conviction that pasteurisation is the only safeguard against infection from tuberculosis by milk consumption.

Chemical analyses (p. 160).

The annual report by Mr. F. E. Needs, F.I.C., the public analyst, on the work of the chemical division of the department of preventive medicine is circulated with this volume.

He draws attention to the following points :—

(1) The samples under the Food and Drugs Act increased by 13 per cent. compared with the average for the five previous years. The adulteration rate being 4·31 per cent. (for England and Wales 1934 — 5·3 per cent.)

(2) The number of samples examined per head of population was 3·82 per cent. (England and Wales, 1934, 3·47 per cent.).

(3) The samples of ice cream analysed showed the percentage of fat contained to vary from three to fifteen per cent. Our public analyst rightly stresses, once again, the need for a legal standard for ice cream.

(4) I refer particularly to the reference to the sale of tincture or solution of iodine in various forms. These solutions containing a very small quantity of iodine are sold at a very substantial profit.

The arrangement whereby the public analyst's department became a part of the preventive medicine department has been most successful during the year. In this way close co-operation has been possible not only between the officers of the health department and the public analyst, but between the laboratory services themselves. Joint publications have been made and the advantages of team work in research can never be over-estimated. Further, the well-equipped and spacious laboratories at the disposal of the staff have resulted in more rapid and efficient work. I desire to express my cordial thanks to Mr. Needs for the enthusiasm and good-will that he has brought to bear in the establishment of these newer relations.

Prevalence and control of infectious and other diseases (pp. 93-125).

Diphtheria.

Approximately 2,692 cases were immunised against diphtheria during the year. Frequently it has been asked to what extent this safeguards the child against an attack of diphtheria. Six years' experience in Bristol can be summarised as follows :—

Last year only six clinical cases occurred amongst the cases which had been immunised. This shows an incidence rate of ·55 per thousand, and compares with a rate of 5·5 per thousand amongst the remaining children between the ages of one and fifteen, many of whom no doubt had been naturally immunised by a previous attack of the disease or otherwise. That is to say, that the risk of catching the disease to the non-immunised child is at least ten times that of the immunised. Further, of the six cases that occurred amongst the immunised, all except one were very mild. There is no evidence that there were more carriers amongst the child population as the result of this immunisation; in fact the number of cases has been gradually diminishing during the last six years.

Scarlet fever.

Three years ago I drew attention to the fact that the disease was getting more severe. This was distinctly our experience last year.

Measles.

This disease was very prevalent, with only 14 deaths however, in spite of very many severe cases that were admitted into hospital.

Cancer.

There were 683 deaths last year, 33 more than in 1934.

I desire to draw particular attention to this disease again this year and to suggest that this is the greatest public health problem confronting this country at the present time. There is no cause for universal satisfaction to be found in the fact that standardised death rates do not show increased incidence of fatal disease in the younger age groups. The following facts should make us all ponder :—

(1) Nearly half the deaths in Bristol from this disease last year were under 65 years (320).

(2) There were 320 deaths of young and middle-aged people from this disease compared with 38 from road accidents, for the prevention of which no expense seems to be too high in signs and guidance. This is not to argue that the latter is not justified. On the contrary, one is convinced that much good has been done, but at least a little more should be done for the guidance of people at risk from cancer, which causes nine times as many deaths in people in the prime of life, and eighteen times as many altogether.

(3) Since 1922-27 there has been, for example, an increase of over 21 per cent. in fatal cancer of the breast in Bristol. Now this is an accessible site and modern scientific equipment has done nothing to make diagnosis easier than it was ten years ago. On the other hand treatment has vastly improved and more cases than ever are being cured. The increase in incidence of cancer of the breast is therefore greater than indicated by the number of deaths.

In an admirable address Mr. Sampson Handley (Mitchell Banks Memorial Lecture, *Lancet*, 2nd May, 1936) has indicated lines of approach to preventive practices to eliminate the disease, and he suggests amongst others—

- (1) Preputiotomy on all male infants at birth for the abolition of penile cancer, the diminution of cancer of the cervix in women to one-sixth of its present incidence, and a probable incidental lowering of puerperal mortality. Instruction of men in the importance of personal hygiene.
- (2) A short prophylactic course of deep X-rays to the breasts in all cases of chronic mastitis, especially if cystic, for the prevention of breast cancer.
- (3) Dental treatment of the people on a national basis for the prevention of cancer of the mouth and alimentary canal.

One cannot help thinking that economic considerations too frequently, in the same way that they often prevent a person from obtaining justice in a dispute with his neighbour, keep people away from medical consultation. The feeling of satisfaction when the doctor says that there is "nothing to worry about" never quite compensates the patient for the loss of money which could bring added comforts to the home. Second consultations are definitely more infrequent. When we provide free medical advice and

treatment for all cases of (or possible) cancer, we shall be taking a definite step in the prevention of the disease.

Tuberculosis.

The incidence and the mortality from pulmonary tuberculosis were slightly lower than in the previous year. The statistics, however, are not satisfactory and do not show the improvement which would be expected. The medical staff has been very handicapped by lack of X-ray facilities and suitable accommodation at the dispensary, and these largely account for the relatively small number of contact and X-ray examinations. When the new facilities are available at the central clinic it is hoped that the operation of the scheme will be considerably improved.

Medical literature.

The following contributions to medical and allied literature concerning clinical and other material obtained while in the Corporation service have been made by members of the staff since my last report was published :—

B. J. BOULTON, M.B. (senior assistant medical officer, Ham Green hospital and sanatorium).

“ A case of agranulocytic angina.”

The Lancet, vol. 2, September 14th, 1935.

I. WALKER HALL, M.D. (Director of preventive medicine laboratories and emeritus professor, Bristol University).

“ Eosinophilic infiltrations in meat.”

Journal of the Royal Sanitary Institute, vol. lv, No. 8, 1935.

“ Time factors in the pasteurization of milk.”

British Medical Journal, vol. 1, May 11th, 1935.

“ Eosinophiles and homologous proteins.”

The Journal of Pathology and Bacteriology, vol. xl, 1935.

I. WALKER HALL, M.D. (Director of preventive medicine laboratories and emeritus professor, Bristol University) and

F. E. NEEDS, F.I.C. (Public analyst).

“ Loopholes for contamination during the making of ice creams.”

The Medical Officer, vol. liii, April 20th, 1935.

J. D. ALLAN GRAY, M.B., F.R.C.P. (Ed.), D.P.H. (Preventive medicine department).

“ An aerobic acid-fast actinomyces in cow's milk due to an udder infection.”

The Journal of Dairy Research, vol. vi, January, 1935.

R. H. PARRY, M.D., M.R.C.P., D.P.H. (Medical officer of health and professor of preventive medicine, Bristol University) and

I. WALKER HALL, M.D. (Director of preventive medicine laboratories and emeritus professor, Bristol University).

“ Reservoirs of bovine tubercle bacilli : their relation to a safe milk-supply.”

The Lancet, vol. 1, May 11th, 1935.

B. A. I. PETERS, M.D., Ch.B., D.P.H., Cantab. (Medical superintendent, Ham Green hospital and sanatorium).

“The diagnosis and treatment of malignant diphtheria.”

British Medical Journal, vol. 1, March 23rd, 1935.

B. A. I. PETERS, M.D., Ch.B., D.P.H., Cantab. (Medical superintendent, Ham Green hospital and sanatorium), and

C. SHORT, M.B., Edin., D.P.H. (Assistant medical officer).

“Gold treatment of tuberculosis.”

The Lancet, vol. 2, July 6th, 1935.

A. G. MORISON, M.A., M.D., D.P.H., (Deputy medical officer of health).

“Common lodging houses.”

The Medical Officer, vol. liv, July 13th, 1935.

D. M. STONE, M.D., D.P.H., (Department of preventive medicine) and

A. G. MORISON, M.A., M.D., D.P.H. (Deputy medical officer of health).

“Non-caseous lymphadenitis in imported lamb or mutton.”

The Medical Officer, vol. liii, March 23rd, 1935.

STAFF of the Preventive Medicine Department, University of Bristol.

“On the examination of pasteurized milk.”

March, 1935.

Port Sanitary Service.

School Medical Service.

Report of the Public Analyst.

Report of the Mental Deficiency Acts Committee.

Comments on these services will be found in the introductory notes to these reports which are appended to this volume.

Finally, in presenting this report, I wish to express my indebtedness for the courtesy at all times extended to me by the chairmen and members of the various Committees, and particularly to the chairman of the Health Committee and the chief officers of the Corporation, which has greatly facilitated the work of the department throughout the year.

This report has been collated by the deputy chief clerk, Mr. J. G. Watson, to whom my best thanks are due.

I am, my Lord Mayor, Ladies and Gentlemen,

Your obedient servant,

R. H. PARRY,

Medical Officer of Health.

PUBLIC HEALTH DEPARTMENT,

BRISTOL,

June, 1936.

1.—NATURAL AND SOCIAL CONDITIONS AND VITAL STATISTICS.

A.—Natural and social conditions.

Area — industries — occupations — unemployment — outdoor relief — parks and open spaces — public amenities— population — inhabited houses—rateable value — penny rate yield—expenditure on public health—meteorology.

B.—Vital statistics.

Comparative statistics — marriages — live births—still-births — deaths — accidents.

Note (1). Unless otherwise stated all figures relating to vital statistics in this report are compiled from local returns.

- (2). The vital statistics furnished by the Registrar General for Bristol for 1935 together with annual summaries back to 1924 and quinquennium figures from 1881/1885 to 1931/1935 are printed in the appendix to this report together with comparative rates for England and Wales for births, deaths, infant and maternal mortalities.

A.—NATURAL AND SOCIAL CONDITIONS.

1934	Extracts for the Year.	1935
22,555	Land acreage	24,381
1,528	Tidal water acreage ...	1,528
410,500	Population — mid-year estimate	413,100
96,431	Inhabited houses	97,955
1,724	Void houses	1,872
£3,036,471	Rateable value inclusive of Government property	£3,108,868
£21,727	Penny rate yield (approx.) ...	£22,168
£12,150		£12,300
£165,967	Outdoor relief	£167,018
4,578	Cases relieved on 27th June	4,009
4,119	“ “ 26th Dec.	4,202
10,819	Persons relieved on 30th June	7,790
8,252	“ “ 29th Dec.	8,177
16,201	Highest Recorded No. of wholly unemployed men...	14,242
1,916	“ “ women	1,786
1,706	“ “ boys	1,438
1,252	“ “ girls...	1,127
1,201	Parks and open spaces (acres)	1,201
11	Public baths and washhouses	12
160	Public conveniences ...	166
66	Public bowling greens-rinks	66
47	Public tennis courts ...	47
6	Public putting greens ...	6
1	Public golf courses	1
55	Public drinking fountains ...	55

Bristol is situated partly in Gloucestershire and partly in Somerset, the river Avon which flows through it being the dividing line. It was created a county of itself in 1373 and the title of city was conferred in 1542. The old city lies in great part on the low ground alluvial basin of the Avon and its tributary the Frome extending on

the outcrop of millstone grit to the north and west to carboniferous limestone, while considerable portions of the remainder of the city lie upon the new red sandstone (trias) and lias limestone. It is the seventh largest town and the sixth port in England, its *land area* extending to 24,381 acres and its tidal water area, 1,528 acres. This acreage includes an extension of the city boundaries under the County of Gloucester Review Order 1935, which added 1,826 acres in the parishes of Henbury (1,698 acres), Filton (8 acres) and Winterbourne (125 acres) to the city on 1st April, 1935, after transferring part of Stoke Park Colony (5 acres) to the County of Gloucester. Its linear dimensions are approximately 10 miles by $7\frac{1}{2}$ miles.

The city is built on a number of eminences ranging from 200 to 300 feet above ordnance datum, its highest elevation being on the eastern boundary (370 feet) ; lowest, the old city which lies at the confluence of the river Avon and Frome (30 feet above ordnance datum).

Bristol is the principal industrial centre for south and south-west England with a large municipal dock undertaking as one of its most important enterprises. It has its own dormitory districts as well as a residential suburb—Clifton—which is regarded as an inland watering place. Its chief *industries* are tobacco, cocoa and chocolate, leather and boots, chemicals, clothing, soap, earthenware, galvanized iron, spelter, paper bags, aeroplanes, cycles, engines, paints, oils and ropes. Over 300 distinct industries are established in some 2,205 factories and workshops. Occupation statistics derived from the 1931 census, published in detail last year, show that 13·3 per cent. of the working population is engaged in commercial finance and insurance, excluding clerks, closely followed by personal service, including institutions, hostels, etc. (12·2), transport and communication (11·4), clerks, draughtsmen and typists (8·8) and metal workers (6·4). These five groups of defined occupations account for over half of the working population. Large sections of the local population are engaged in the textile trades (5·2), warehousemen, storekeepers, etc. (4·5), professional occupations (4·2), foods, drinks and tobacco (4·0), building bricklayers, stone and slate workers (3·9) and workers in wood and furniture (3·2), printers and photographers (2·0), paper cardboard, bookbinders, etc. (1·9), painters and decorators (1·9), public administration and defence (·9), electrical apparatus makers, etc. (·9), agriculture (·8), stationary engine drivers, dynamo and motor attendants (·6), entertainment and sport (·5), musical instruments, vehicles, shipbuilders, etc. (·4), skins, leather and leather substitutes (·4), mining and quarrying (·4), bricks, pottery and glass (·3), chemicals, paints and oils (·3), rubber, bone, etc. (·2), watches, clocks and scientific instruments (·1), coal gas, coke and by-products (·05), precious metals and electro plate (·05), other undefined workers (11·2).

The state of *unemployment* undoubtedly exercises a marked effect on the health and well-being of the people. The variety of our local industries (over 300 distinct industries) has protected us from suffering such deep trade depression as those towns where there is practically only one industry. Since 1932 there have been indications of improved industrial conditions and prospects.

The manager of the employment exchange (J. N. Sydenham, Esq.) in kindly furnishing the peak statistics for 1935 for the city area—

which includes a portion of the Kingswood Exchange—states that “the employment position in the Bristol area during 1935 shewed a substantial improvement as compared with 1934. This improvement was spread over various industries, but was particularly marked in the building trades and in aircraft manufacture. The new road schemes of the Corporation are expected to give employment to a considerable number of men, and there is reason to anticipate that the general improvement will continue during 1936.”

These figures record that the highest numbers of wholly unemployed men, women, boys and girls in no case reached the peak figures for 1934.

Outdoor relief administered in the city for the year ending 31st March, 1936, showed an increase of £1,083 compared with the previous year.

The city is provided with some very fine *parks, open spaces* and commons (69) including the Clifton and Durdham Downs, about 442 acres in extent preserved to the city for ever, and Blaise Castle and grounds, a fine estate of some 200 acres on the outskirts of the city. Altogether the total acreage available for communal recreation amounts to some 1,201 acres. Bowling greens, tennis courts, putting greens as well as playing fields are provided in most of the parks, three of which contain public swimming baths and two lakes on which boating is allowed. There are several golf courses within easy reach of the city. The figures in the foregoing table indicate the changes which have occurred during the year in some of the more important matters bearing on the social life and welfare of the community.

There are 127 schools, a university, many colleges and public schools, a museum and art gallery, 16 public libraries, 226 churches and chapels, 51 theatres and cinemas, 129 public halls including the Colston Hall, Coliseum and Victoria Rooms for public meetings, concerts and exhibitions, 12 public baths, four markets, five cemeteries including a crematorium, a municipal lodging house, 21 almshouses, two public institutions, eight general and special hospitals, two isolation hospitals, three sanatoria, six dispensaries, a mental hospital and a colony for mental defectives, 34 registered maternity and nursing homes, district nursing society and two convalescent homes.

The *population* of the city, as estimated by the Registrar-General at mid-1935 is 413,100, an increase of 2,600 on the figure supplied for mid-1934. This is the mid-year's estimate of population for the area as constituted since the extension of the boundaries on 1st April, 1935.

In recent years, there has been great activity in the matter of housing. Since 1919, when there was an estimated shortage of 5,000 houses, well over 26,000 houses have been erected by municipal and private enterprise and 53 slum areas have been cleared. Housing estates, artizan dwellings and two groups of 3-storey flats and one of four storeys have been developed, providing 146 flats in all.

The estimated number of *inhabited houses* on the 31st March, 1935, according to the rate book, has increased by 1,524, void houses by 148, giving a total of 99,827 houses inhabited and void, compared with 98,155 last year, while the *rateable value* of the city on the 1st

April, 1935, inclusive of government property (£22,168) was £3,108,868 representing a *penny rate yield* for the half-year ended 31st March, 1935 of £12,265, and for the half-year ended 30th September, 1935, of £12,336. The rates levied for the year were 11/- in the £ except in districts affected by the Somerset Review Order 1933 where there is a differential rating of 2/6 in the £. Of this sum, expenditure on public health services (1/2·6d.) was made up as follows :—

Hospitals, sanatoria, etc.			
(a) for tuberculosis	...	...	4·4d.
(b) „ venereal disease	...	...	·5d.
(c) „ infectious disease	...	...	2·0d.
(d) „ general hospitals	...	...	1·3d.
Maternity and child welfare	...	...	2·2d.
Port sanitary service	...	...	·1d.
Blind Persons Act	...	...	·8d.
Other health services	...	...	2·3d.
School medical service, including provision of meals	...	...	1·0d.

Bristol is amongst the lowest rated of all the ports and industrial centres of the United Kingdom.

The Weather of 1935.

I am indebted to Mr. H. H. Harding, F.R. Met. Soc., for the following meteorological report for 1935. The records are taken by Mr. Harding at Frampton Cottrell and at St. Andrew's Park, Bishopston, by his associate, Mr. H. Vicars Webb. The results for the individual months appear in the table printed on page —.

Observations at Bristol.

Mean pressure at 9 a.m., G.M.T. (corrected)...	29·915	inches.
Departure from average (25 years) ...	—0·036	inch.
Greatest pressure at 9 a.m. ...	30·650	ins. on Mar. 8th.
Least pressure at 9 a.m. ...	28·647	„ „ Feb. 25th.
Total rainfall at <i>Bishopston</i> (St. Andrew's Pk.)	40·95	„
Departure from average (Clifton, 39 yrs.) ...	+5·86	„
Number of rainy days ...	199.	
Heaviest rainfall in 24 hours ...	1·45	„ „ Sept. 21st.
Total rainfall at <i>Frampton Cottrell</i> ...	40·14	„
Departure from average (25 years) ...	+8·55	„
Number of rainy days ...	193.	
Departure from average (25 years)...	+9·1	
Days with 0·04 in. or over ...	153.	
Days with less than 0·04 in. ...	40.	
Heaviest fall in 24 hours ...	1·48	„ „ Oct. 5th.
Mean humidity at 9 a.m. ...	85·3%	
Mean temperature (max. & min.) ...	50·4	degrees.
Departure from average (25 years) ...	+1·2	degree.
Maximum temperature in shade ...	88·5	degrees on July 13th.
Minimum temperature ...	17·7	„ „ Dec. 23rd.
Mean temperature warmest day ...	73·25	„ „ July 13th.
Mean temperature coldest day ...	25·05	„ „ Dec. 21st.
Hours of bright sunshine (estimated)	1,577½.	
Departure from average (25 years) ...	+41½.	
Days of bright sunshine ...	103.	
Days entirely overcast ...	47.	
Days upon which thunder observed	18.	
Days „ „ fog „	23.	
Days „ „ snow „	8.	
Number of frosty nights ...	46.	
Number of „ „ on grass ...	91.	

The remarkably mild conditions prevailing during the closing days of 1934 continued well into the new year—but with a difference—fair quiet weather taking the place of the rain and wind of December. The second week, however, was more seasonable and several frosty nights were experienced, together with a couple of slight snowfalls. A somewhat rare happening for the time of year in this period was a short but heavy storm of thunder, lightning and hail upon the 11th. With the 13th quiet and very mild weather returned, lasting to the 24th after which temperature again fell to a normal level. In its rainfall only once before this century has January given less rain and only on five occasions previously. These six instances were :—

1855	...	0·31 inch	at Clifton.
1880	...	0·66 inch	„
1889	...	0·84 inch	„
1896	...	0·45 inch	at Fishponds.
1898	...	0·68 inch	„
1905	...	0·47 inch	„

February brought fairly normal weather for its opening ten days, but from then to the close rain fell daily ; this period being the most stormy that our islands had experienced for some time. With March more settled conditions became general, but a change of wind to the eastward on the 7th brought during the next few days the coldest spell locally since the opening week of February, 1934. The unpleasantness of this was accentuated by a dry and bitter easterly wind. With a change of direction on the 15th, the weather became more springlike and on the 20th a temperature of 64 degrees was recorded, a value not reached the previous season before April 15th. A week of fair springlike conditions entirely without rainfall closed the month.

April is easily the first month of the twelve in its freedom from heavy rains, and not once in past years has a fall of five inches been recorded in Bristol against it. Further, a careful search over the past shows only three occasions before this season of a fall above four inches, these being as follows :—

1882	...	4·07 inches	(Dr. G. F. Burder)
1889	...	4·77	„
1920	...	4·68	„ (Miss C. S. Hooper)

It will be seen that each of these totals is below that recorded by Mr. Vicars Webb (4·81 inches), so that April of this season may be regarded as the wettest experienced in the Bristol area since at least 1853.

May brought to our islands the most disastrous weather experienced for many years past, its middle portion bringing conditions of midwinter type. How remarkable these were the following details of temperature of this mid-May week and that of last Christmastide will show :—

Means of maximum and minimum.

May 13th	...	43·9 dgs.	Dec. 25th	...	43·6 dgs.
„ 14th	...	42·6 „	„ 26th	...	45·0 „
„ 15th	...	46·4 „	„ 27th	...	46·0 „
„ 16th	...	43·3 „	„ 28th	...	47·3 „
„ 17th	...	38·4 „	„ 29th	...	47·8 „
„ 18th	...	42·4 „	„ 30th	...	47·4 „
„ 19th	...	43·0 „	„ 31st	...	49·2 „
Mean of week : 42·85 dgs.			Mean of week : 46·6 dgs.		

Such temperatures, so late in the season, are a record for this century but in 1910 three sharp night frosts were recorded at this station on the 9th, 10th and 11th with a screen minimum of 28·4 degrees on the first date. In earlier years, Mr. R. F. Sturge records a heavy snowstorm in 1861 on the 8th, and a further heavy fall on the 11th in 1872; this last followed by a sharp frost on the 19th which he states killed all the fruit for that season and the early potatoes. Evidently a similar experience to the season under review. Heavy snowstorms accompanied the cold in Devonshire, Cornwall and other districts but locally apart from a few flakes on the 17th no fall occurred.

June brought almost continuous rains throughout its first three weeks but with the 21st a rise of 15 degrees of temperature over the previous day heralded a few days of the warmest June weather experienced locally this century, the details for the 23rd to 25th inclusive being as follows :—

		Min.	Max.	Mean
23rd	...	59 dgs.	85 dgs.	72 dgs.
24th	...	60 „	84·5 „	72 „
25th	...	63 „	82 „	72·5 „

Although this daytime warmth was exceeded both in June 1925 and 1933, there is no precedent for the high night temperatures, and that of the 25th constitutes a record for the month.

Thundery conditions followed this great heat and while Bristol itself escaped with a moderate rainfall, its more eastern and northern districts were visited on the 25th by torrential rains and hail, together with fierce gusts of wind.

Although July last year was warmer, gave more sunshine, and was without a single sunless day, the month this season comes a close second on all these counts, and in regard to rainfall gave less than half the quantity as in that remarkably dry summer. Indeed, no two similar summer months in consecutive years have such a record this century. Their chief individual figures are :—

		Rainfall	Mean. temp.	Sunshine	Sunny days
1934	...	1·35 inches	66·6 dgs.	276 hours	20
1935	...	0·64 inch	64·5 „	258 „	19

Apart from a thunder shower on the 11th practically the whole rainfall of the month occurred from the 16th to the 20th, no rain falling after this last day. Apart from a heavy but very local thunderstorm this June weather continued throughout the first three weeks of August. Then, after two months of continuous summer weather, conditions at last became unsettled and a series of heavy daily rainfalls brought the month to a close.

Apart from a few fair days from the 6th to the 11th very unsettled conditions continued throughout September, bringing a series of heavy rains, and upon the 16th and 17th one of the severest gales experienced over the south of our islands for many years. The month proved the wettest since 1929 when both November and December brought falls exceeding 8 inches. In regard to September alone the month in 1918 gave at Clifton the extraordinary amount of 10·21 inches—a fall quite without precedent in our local records. At this station the fall was 8·55 inches—the heaviest I have so far

recorded. A thunder storm of tropical intensity prevailed during the night following the 21st.

Similar conditions prevailed throughout the two following months, but December at first brought more normal weather. On the 19th, however, a slight snowfall proved the prelude to the severest touch of winter experienced locally for several years, this being accompanied throughout the 20th by a fog of remarkable density. On this day, the temperature failed to exceed freezing point, and on the 23rd the maximum temperature was only 28 degrees. However the following day brought a decided thaw, and Christmas Day gave a maximum of no less than 21 degrees above that of the 23rd. The concluding days brought a series of heavy rains and the year closed showing a rainfall above that of any year since 1924 when 42·19 inches were recorded at this station and 46·67 inches at St. Andrew's Park.

Taking the year's weather as a whole it will be remembered for three contrasting aspects, the severe frosts of May, the great heat of July and August, and the continuous and heavy rainfalls of the autumn months. These formed a combination seldom experienced within one year in the weather history of our district. Only two months, May and December, were deficient in warmth and the year as a whole was the warmest of this century apart from 1921, when the mean temperature was 51·4 degrees.

B.—VITAL STATISTICS.

Summary for 1935.

1934	Extracts for the Year.	1935
13·92	BIRTH RATE per 1,000 population	13·85
13·46	do. legitimate	13·40
·46	do. illegitimate	·45
10·86	DEATH RATE „ „ „ „ „ „	10·79
3·06	Natural increase „ „ „ „ „ „	3·06
45·9	INFANT MORTALITY per 1,000 livebirths—	43·2
44·2	Legitimate	41·8
95·7	Illegitimate	86·0
27·7	NEO-NATAL MORTALITY per 1,000 livebirths ...	27·3
43·1	STILLBIRTH RATE per 1,000 TOTAL births ...	42·2
·63	STILLBIRTH RATE per 1,000 population ...	·61
4·19	MATERNAL MORTALITY per 1,000 TOTAL births	2·51
1·34	Puerperal sepsis	·84
2·85	Other puerperal causes	1·67
·16	ZYMOTIC DEATH RATE per 1,000 population ...	·13
16·7	MARRIAGE RATE per 1,000 population ...	17·3
5,712	*LIVEBIRTHS :	5,715
2,816	Legitimate males	2,846
2,708	„ females	2,683
100	Illegitimate males	101
88	„ females	85
257	*STILLBIRTHS—	252
138	Legitimate males	130
102	„ females	110
8	Illegitimate males	4
9	„ females	8
4,458	DEATHS—	4,451
40·40	Percentage occurring in public institutions ...	46·5
8	Maternal deaths from sepsis	5
17	„ „ other causes	10
12	Deaths from measles (all ages)	14
18	„ „ whooping cough (all ages) ...	—
17	„ „ diarrhoea (under 2 years of age)	18

* Figures supplied by Registrar General.

Comparative Statistics 1935	Population	Rate per 1,000 population.		Rate per 1,000 live births	Rate per 1,000 total births		
		Live Births	Deaths	Deaths under one year	Maternal deaths		Still- births
					All causes	Puerper- al sepsis	
England & Wales	—	14·7	11·7	57	3·93	1·61	41
121 County Boroughs ...	—	14·8	11·8	62	—	—	—
Birmingham ...	1,033,000	15·4	12·0	64	3·40	1·40	33·3
Liverpool ...	867,110	20·0	15·2	83	3·26	1·60	41·4
Manchester ...	776,028	14·53	14·72	71·3	3·64	2·03	46·18
Leeds ...	487,200	14·8	14·1	64	3·18	1·06	44
Bristol ...	412,625*	13·85	10·57	43	2·51	·84	42
Bradford ...	292,200	13·55	14·30	64	2·66	1·69	44·2
West Ham ...	270,700	15·5	10·7	45·4	3·23	1·39	28·9
Nottingham ...	280,200	15·69	12·88	81	4·4	0·88	37·45
Portsmouth ...	250,200	14·81	11·82	46	3·91	2·87	32·6
Cardiff ...	221,400	15·2	13·0	59	4·50	2·81	50·1
Plymouth ...	203,600	15·0	12·25	59·7	5·0	2·8	33·88

* Modified estimate for composite records resulting from alteration in boundary.

Comparative statistics.

The features in regard to the vital statistics for Bristol for 1935 compared with ten other large towns, the county boroughs, and with England and Wales are as follows :—

- (1) The city has the lowest birth-rate with the exception of Bradford, our birth-rate being ·8 below the rate for the whole country.
- (2) Without exception we had the lowest death rate, and it is 1·13 per 1,000 population below the rate for the whole country.
- (3) Our infant mortality rate is the lowest of the towns quoted and is 14 per thousand births below the rate for the whole country.
- (4) Our maternal mortality rates are the lowest of the towns quoted and considerably below national rates.
- (5) Our stillbirth rate ranks fifth in the list and is 1 per 1,000 total births above the rate for England and Wales.

Thus the year under review is noteworthy for generally favourable local health statistics. This is equally true if local comparisons are made. With the exception of the birth rate, which declined by $\cdot 07$ per 1,000 population—a disappointment after last year's $\cdot 26$ rise—all main rates show improvement on those recorded for 1935, viz. :—

Death rate (10·79) down by $\cdot 07$ per 1000 population.

Zymotic death rate ($\cdot 13$) down by $\cdot 03$ per 1000 population.

Marriage rate (17·3) up by $\cdot 6$ per 1000 population.

Infant mortality (43·2) down by 2·7 per 1000 births.

Neo-natal mortality (27·3) ,, ,, $\cdot 4$,, ,, ,,

Stillbirths (42·2) ,, ,, $\cdot 9$,, ,, total births.

Maternal mortality (2·51) ,, ,, 1·68,, ,, ,,

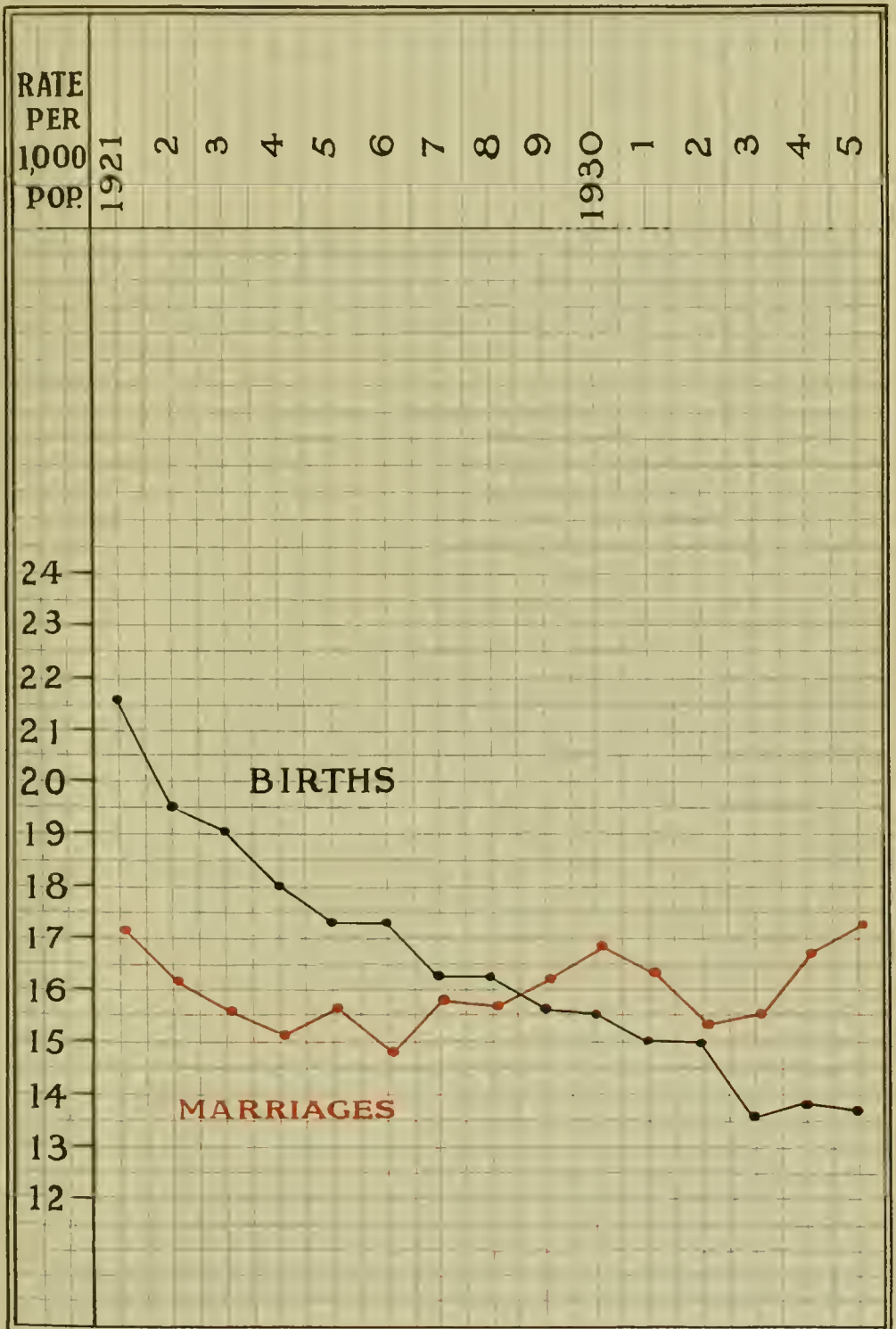
do. from puerperal sepsis ($\cdot 84$) down by $\cdot 50$ per 1000 total births.

In certain instances, fresh records have been created as in the case of the general death rate, and infantile mortality.

Observations on the statistics relating to infant and maternal mortality will be found in the section of this report dealing with maternity and child welfare.

MARRIAGE AND BIRTH RATES

1921-1935





Marriages.*Rate per 1000 population.*

	Bristol.	England and Wales.
1935	17·3	17·1
1934	16·7	16·9

During the year, 3,558 marriages took place within the city and county of Bristol, compared with 3,435 in 1934. This number gives a *marriage rate* of 17·3 per 1,000 population, a rise of ·6 on the rate last year, and the highest to be recorded since 1920. The upward tendency in this rate since 1933 is an index of improved local industrial conditions, and moreover shows that Bristol is in step with the national marriage rate, which has been steadily rising for three years.

The provisional marriage rate for England and Wales (17·1) was ·2 above the high record of 1934 and with the exception of the high rates recorded in 1915, 1919 and 1920, which were the direct result of war conditions, was the highest rate since 1873.

Live births.**Rate per 1,000 population.*

	Bristol	England and Wales	Combined County Boroughs
1935	13·85	14·7	14·8
1934	13·92	14·8	14·7

The live births of children of residents of Bristol in 1935 (whether born inside or outside the city) numbered 5,715 compared with 5,712 in the previous year, and comprised 2,947 males and 2,768 females, of whom 101 males and 85 females were illegitimate. This number gives a *live birth rate* of 13·85 per 1,000 population, a slight fall on the figure last year (13·92).

In considering this rate it is observed that—

- (1) the fall in the local rate (·07) is not so striking as the fall recorded in the national birth rate (·1).
- (2) the Bristol rate has declined by ·07 per 1,000, while the rate for combined county boroughs has increased by ·1.
- (3) the rate is ·19 per 1,000 above the low record for 1933 (13·66).
- (4) the rate is still much below the mean birth rate for 1926/1930 (16·3).
- (5) the fall in the birth rate for the five years 1931/1935 (14·3) was 2·0 per 1,000. The fall during the previous quinquennial period was 2·8. Thus the rate of decline, while still proceeding, has slowed down by nearly one third.

The *natural increase* of the population (i.e., the excess of births over deaths) is the same as for 1934, viz. :—3·06 per 1,000. For the previous ten years, the natural increase averaged 3·7 per 1,000 population.

Illegitimate live births (186) were two less than last year and represent 3·1 per cent. of the total. The *illegitimate birth rate* is ·45 per 1,000 population compared with ·46 last year. The fall in the birth rate in Bristol, therefore, is almost entirely represented by fewer legitimately born infants.

Stillbirths.*

Rate per 1,000 population.

	Bristol	England and Wales	Combined County Boroughs
1935	·61	·62	·68
1934	·63	·62	·66

The stillbirths of children of Bristol residents in 1935 (whether born inside or outside the city) totalled 252, five less than last year. This total is made up of 134 males and 118 females, of whom 4 males and 8 females were illegitimate. The figure gives a *stillbirth rate* of ·61 per 1,000 population—·02 less than 1934. The rate for the past two years has been slightly above the average for the first five years of registration (1928-1932). Prior to 1st July, 1927, stillbirths were not registrable. The national rate remains at last year's level, while the combined rate for county boroughs increased by ·02.

Illegitimate stillbirths (12) were five less and represent 4·8 per cent. of the total. The *illegitimate still birth rate* is ·03 per 1,000 population compared with ·04 last year.

The wastage of possible life is more accurately shown by calculating the stillbirth rate per 1,000 total births (including stillbirths). In Bristol this was 42 compared with a national rate of 41 per 1,000 total births. Last year the corresponding figures were 43 and 40.

Total births registered by sex and legitimacy and in registration sub-districts.†

Total 1934		Total 1935	Live births.		Still births	
			Males	Females	Males	Females
6,042	Legitimate ...	6,100	3,025	2,802	154	119
260	Illegitimate ...	241	119	107	5	10
6,302	TOTAL ...	6,341	3,144	2,909	159	129
480	Ashley ...	478	249	213	10	6
1,207	Bristol South	1,213	594	572	24	23
1,522	„ Central	1,520	730	665	78	47
873	Clifton ...	891	424	437	16	14
794	St. George ...	737	375	342	9	11
417	Stapleton ...	392	194	187	9	2
1,009	Westbury-on- Trym ...	1,110	578	493	13	26

† These figures are uncorrected.

Births notified.

The number of births notified under the Notification of Births Act 1915 is included in the report on the maternity and child welfare section.

Deaths.

Rate per 1,000 population.

	Bristol	England and Wales.	Combined County Boroughs
1935	10·79	11·7	11·8
1934	10·86	11·8	11·8

The total number of deaths of domiciled Bristol residents registered during the year was 4,451, a decrease of seven on the number recorded in 1934. The deaths, which comprised 2,185 males and 2,266 females, have been classified throughout this section under the principal causes according to the manual of the international list of causes of death, and are to be found in quarters, age groups and in registration sub-districts.

This figure gives a *crude death rate* of 10·79 per 1,000 population, a fresh low record for Bristol, being a decrease of ·07 on the low record last year. To make local death rates comparable with the death rate of the country as a whole or with the mortality of any other local area, they must be modified with a comparability factor. The corrected death rates for Bristol since 1931 are :—

Year	Bristol C.B.		Combined county boroughs	England and Wales
	Crude death rate	Adjusted death rate		
1935	10·79	10·57	11·8	11·7
1934	10·9	10·7	11·8	11·8
1933	12·0	11·8	12·2	12·3
1932	11·6	11·4	11·8	12·0
1931	11·8	11·6	12·3	12·3

Bristol's death rate is a distinct improvement on these rates being 1·1 per 1,000 below the national rate and 1·2 lower than the rate for the combined county boroughs. In the case of the national death rate (11·7) the only years showing a lower or similar record were 1923 (11·6), 1926 (11·6), 1928 (11·7) and 1930 (11·4).

Causes of mortality.

Heart disease again heads the list in order of numerical importance, as the principal cause of mortality, with 24·67 per cent. of the total deaths, followed by cancer (15·10 per cent.), respiratory diseases excluding pulmonary tuberculosis (9·59 per cent.) and pulmonary

tuberculosis (6·58 per cent.) More than half the total deaths registered (55·9) per cent.) were again due to these four causes and in the same order of precedence as last year. In the case of heart disease the percentage of the total is the same. Cancer increased by ·61 per cent. and the other two causes slightly declined.

As the number of deaths are practically the same as in 1934, there are no marked changes to record in the death rates for the different causes. There were no deaths from whooping cough, and, for the second consecutive year, from typhoid or paratyphoid fevers, while the death rates per 1,000 population remain the same in the case of measles, diabetes, appendicitis, cirrhosis of liver, and premature or malformed infants. The most notable decreases are those recorded for the digestive diseases not specially listed (·08) tuberculosis and violence excluding suicide (·06 each). Eighteen other causes or groups of causes show a total decline of ·32 in the general death rate.

The increases in the death rate per 1,000 are confined to eleven classifications, the most notable being senility which shows an increase of ·10 per 1,000 followed by cerebral haemorrhage (·08), influenza, cancer and nephritis (·04 each).

Death rates in quarters.

The death rate for the first quarter of the year was 12·25 per 1,000 ; for the second, 10·65 ; for the third, 9·01, and for the fourth, 11·47. These rates show a normal seasonal value slightly lower than last year's except in the fourth quarter and in no case is there any outstanding features calling for comment.

Causes of deaths by ages.

An examination of this age group table discloses that for certain causes the majority of deaths occurred in certain age groups, for instance :—

Measles	...	...	...	86%	under 5 years.
Diphtheria	...	...	...	92%	„ 15 years.
Diarrhoea, etc.	...	...	...	53%	„ 2 years.
Pulmonary tuberculosis	...	...	...	72%	between 25 and 65 years.
do.	...	...	...	43%	„ 25 and 45 years.
Influenza	...	...	...	69%	over 45 years.
Cancer	...	...	...	93%	„ 45 years.
do.	...	...	...	46%	between 45 and 65 years.
Diabetes	...	...	...	60%	over 65 years.
Heart disease	...	...	...	95%	„ 45 years.
do.	...	...	...	72%	„ 65 years.
Pneumonia	...	...	...	62%	„ 45 years.
Peptic ulcer	...	...	...	78%	„ 45 years.
Appendicitis	...	...	...	62%	„ 45 years.
Liver diseases	...	...	...	90%	„ 45 years.
Nephritis	...	...	...	89%	„ 45 years.

The number of deaths of children under five years (pre-school age) amounted to 7·8 per cent. of the total deaths, of which 5·6 per cent. represent infants under one year ; children of school age (5—15) totalled 1·5 per cent. ; young people aged 12-25, 3·1 per cent. ; persons aged 25-45, 10·4 per cent. ; persons aged 45-65, 25·8 per cent. ; and persons aged 65 and upwards, 51·4 per cent. Only in the groups aged 25-45 and over 65 have these percentages increased, the former by ·1 and the latter by 3·4 per cent.

Accidents as a cause of mortality.

In 1935, the deaths from causes due to violence, other than suicide, gave a death rate of ·32 per thousand, ·06 less than last year. This rate includes a number of deaths directly due to street accidents in which vehicular traffic and cycles were concerned. The chief constable informs me that 38 fatalities occurred during the year from street accidents, so that ·09 per 1,000 of the violence death rate may be directly attributed to this cause. Altogether, 1,182 traffic accidents were reported (47 more than in 1934), involving 1,387 persons in death or injury, and the fatalities represent 3·2 per cent. of the total accidents.

1934	ACCIDENTS	Mechanically propelled vehicles.						Horse drawn vehicles and horses	Pedal cycles	Total accidents 1935
		Omni-buses and motor coaches	Tramcars and trackless trolley vehicles	Motor cycles	Private and other cars	Other vehicles	Total			
45	Fatal ..	2	2	4	15	8	31	—	7	38
1,090	Non-fatal	16	17	200	296	124	653	15	476	1,144

Miscellaneous.

The number of inquests and the deaths certified by the coroner after post mortem without an inquest, held at Bristol during the year was 382, 41 less than in 1934. This represents 8·6 per cent. of the total deaths registered.

Deaths in public institutions in Bristol, excluding deaths in nursing homes, totalled 2,072 or 46·5 per cent. of the total deaths registered compared with 40 per cent. last year and 37 per cent. in 1933.

1935.

Causes of Death. Percentage to total and death rates.

1934	Principal causes of death.					Net deaths in 1935	% to total deaths.	Death rate per 1,000	
—	1	Typhoid and paratyphoid fevers ...					—	—	—
12	2	Measles					14	·32	·03
1	3	Scarlet fever... ..					9	·20	·02
18	4	Whooping cough					—	—	—
16	5	Diphtheria					12	·27	·03
18	6	Influenza					32	·72	·08
12	7	Encephalitis lethargica					3	·07	·01
14	8	Cerebro spinal fever					7	·16	·02
301	9	Tuberculosis of respiratory system					293	6·58	·71
52	10	Other tuberculous diseases ...					36	·81	·09
16	11	Syphilis					14	·32	·03
14	12	General paralysis insane, tabes dorsalis					7	·16	·02
646	13	Cancer, malignant disease					672	15·10	1·63
65	14	Diabetes					65	1·46	·16
236	15	Cerebral haemorrhage, etc. ...					268	6·02	·65
1,100	16	Heart disease					1,098	24·67	2·66
20	17	Aneurysm					14	·32	·03
20	18	Other circulatory diseases					11	·25	·03
167	—	Arterio-sclerosis					165	3·70	·40
110	19	Bronchitis					107	2·40	·26
230	20	Pneumonia (all forms)					224	5·03	·54
88	21	Other respiratory diseases					96	2·16	·23
40	22	Peptic ulcer					49	1·10	·12
26	23	Diarrhoea, etc.					34	·76	·08
29	24	Appendicitis					29	·65	·07
11	25	Cirrhosis of liver					11	·25	·03
18	26	Other diseases of liver, etc. ...					19	·43	·05
95	27	Other digestive diseases					63	1·42	·15
167	28	Acute and chronic nephritis ...					184	4·13	·45
8	29	Puerperal sepsis					5	·11	·01
17	30	Other puerperal causes					10	·22	·02
171	31	Congenital debility, premature birth, malformations, etc.					174	3·91	·42
122	32	Senility					165	3·71	·40
59	33	Suicide					61	1·37	·15
155	34	Other violence					133	2·99	·32
349	35	Other defined causes					330	7·41	·80
32	—	Rheumatic fever					36	·80	·09
3	36	Causes ill-defined or unknown ...					1	·02	·002
4,458						4,451	100·00	10·79	

1935.

Causes of death in quarters.

Total 1934	Disease.	Quarters.				Total 1935
		1st	2nd	3rd	4th	
—	1 Typhoid and paratyphoid fevers	—	—	—	—	—
12	2 Measles	1	3	5	5	14
1	3 Scarlet fever	4	3	2	—	9
18	4 Whooping cough	—	—	—	—	—
16	5 Diphtheria	3	4	1	4	12
18	6 Influenza	14	8	3	7	32
12	7 Encephalitis lethargica	—	1	1	1	3
14	8 Cerebro spinal fever	—	3	1	3	7
301	9 Tuberculosis of respiratory system	80	83	65	65	293
52	10 Other tuberculous diseases ...	6	8	10	12	36
16	11 Syphilis	2	3	6	3	14
14	12 General paralysis insane, tabes dorsalis	4	2	—	1	7
646	13 Cancer, malignant disease ...	172	147	163	190	672
65	14 Diabetes	21	15	13	16	65
236	15 Cerebral haemorrhage, etc. ...	84	64	54	66	268
1,100	16 Heart disease	324	288	216	270	1,098
20	17 Aneurysm	1	2	3	8	14
20	18 Other circulatory diseases ...	4	2	2	3	11
167	— Arterio-sclerosis	41	39	27	58	165
110	19 Bronchitis	34	27	12	34	107
230	20 Pneumonia (all forms) ...	78	43	26	77	224
88	21 Other respiratory diseases ...	38	17	19	22	96
40	22 Peptic ulcer	14	13	7	15	49
26	23 Diarrhoea, etc.	13	5	6	10	34
29	24 Appendicitis	5	7	8	9	29
11	25 Cirrhosis of liver	5	—	4	2	11
18	26 Other diseases of liver, etc. ...	2	9	2	6	19
95	27 Other digestive diseases ...	23	13	11	16	63
167	28 Acute and chronic nephritis ...	43	64	36	41	184
8	29 Puerperal sepsis	2	—	2	1	5
17	30 Other puerperal causes... ..	2	3	2	3	10
171	31 Congenital debility, premature birth, malformations, etc. ...	46	53	38	37	174
122	32 Senility	51	35	40	29	165
59	33 Suicide	15	18	9	19	61
155	34 Other violence	30	32	38	33	133
349	35 Other defined causes	85	74	86	85	330
32	— Rheumatic fever	12	6	9	9	36
3	36 Causes ill-defined or unknown	—	1	—	—	1
4,458	TOTAL ...	1,259	1,095	927	1,170	4,451
10.86	Death rate per 1,000	12.25	10.65	9.01	11.47	10.79

1935.

Causes of death at ages.

CAUSE OF DEATH.				Deaths in whole district at subjoined ages								Corrections made for transferable deaths.		Total deaths in Public Institutions.	
				All ages	Under 1	1 and under 2	2 and under 5	5 and under 15	15 and under 25	25 and under 45	45 and under 65	65 and upwards	Inward Transfers _e (+)		Outward Transfers (-)
Certified .. .. .	..	..	..	4450	246	44	57	68	138	461	1149	2287	92	464	..
Uncertified .. .. .	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..
1 Typhoid and paratyphoid fevers ..	..	..	..	..	..	7	3	2	..	..	..	..	..	..	..
2 Measles .. .. .	..	..	..	14	2	..	..	..	..	..	..	..	..	..	8
3 Scarlet fever .. .. .	..	..	..	9	..	2	4	2	..	1	..	..	..	..	9
4 Whooping cough .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
5 Diphtheria .. .. .	..	..	..	12	..	1	6	4	..	1	..	..	..	1	11
6 Influenza .. .. .	..	..	..	32	2	1	1	..	..	6	7	15	..	..	8
7 Encephalitis letbargica .. .. .	..	..	..	3	..	..	1	..	..	..	2	..	..	1	3
8 Cerebro spinal fever .. .. .	..	..	..	7	2	1	1	1	..	2	..	..	..	1	8
9 Tuberculosis of respiratory system..	..	..	..	293	..	1	3	6	62	127	83	11	9	8	149
10 Other tuberculous diseases .. ..	..	..	..	36	..	6	10	3	5	8	3	1	4	8	35
11 Syphilis .. .. .	..	..	..	14	2	..	..	..	..	..	9	3	..	2	12
12 General paralysis insane, tabes dorsalis .. .. .	..	..	..	7	..	..	..	..	1	..	5	1	..	4	10
13 Cancer, malignant disease .. ..	..	..	..	672	..	..	..	2	3	41	266	360	10	79	311
14 Diabetes .. .. .	..	..	..	65	..	..	..	1	1	7	17	39	1	6	27
15 Cerebral haemorrhage, etc. .. ..	..	..	..	268	2	..	..	..	..	7	65	194	3	10	83
16 Heart disease .. .. .	..	..	..	1098	1	..	2	1	5	49	244	796	11	50	358
17 Aneurysm .. .. .	..	..	..	14	..	..	..	..	..	1	7	6	..	3	7
18 Other circulatory diseases .. ..	..	..	..	176	1	..	..	..	..	4	44	127	5	5	35
19 Bronchitis .. .. .	..	..	..	107	3	..	1	..	..	3	25	75	2	1	29
20 Pneumonia (all forms) .. .. .	..	..	..	224	25	12	6	6	2	34	50	89	4	27	114
21 Other respiratory diseases .. ..	..	..	..	96	..	..	..	1	7	8	24	56	3	8	64
22 Peptic ulcer .. .. .	..	..	..	49	..	..	..	..	..	11	22	16	3	20	51
23 Diarrhoea, etc. .. .. .	..	..	..	34	16	2	1	..	..	1	11	3	1	3	19
24 Appendicitis .. .. .	..	..	..	29	..	..	1	5	..	5	7	11	..	6	29
25 Cirrhosis of liver .. .. .	..	..	..	11	..	..	..	..	..	1	4	6	..	..	4
26 Other diseases of liver, etc. .. ..	..	..	..	19	..	..	..	..	1	1	3	14	..	6	15
27 Other digestive diseases .. .. .	..	..	..	63	4	..	1	2	1	9	20	26	..	25	70
28 Acute and chronic nephritis .. ..	..	..	..	184	..	..	2	3	..	16	58	105	5	16	68
29 Puerperal sepsis .. .. .	..	..	..	5	..	..	..	..	..	5	..	..	..	7	11
30 Other puerperal causes .. .. .	..	..	..	10	..	..	..	..	1	9	..	..	..	3	10
31 Congenital debility, premature birth, malformations, etc. .. ..	..	..	..	174	168	3	1	..	1	1	..	..	2	27	119
32 Senility .. .. .	..	..	..	165	..	..	..	..	..	..	..	165	2	8	49
33 Suicide .. .. .	..	..	..	61	..	..	..	..	5	17	30	9	3	4	9
34 Other violence .. .. .	..	..	..	133	2	2	5	11	20	27	30	36	15	34	92
35 Other defined causes .. .. .	..	..	..	366	17	6	8	18	23	59	113	122	9	88	243
36 Causes ill-defined or unknown ..	..	..	..	1	..	..	..	..	..	..	..	1	..	2	1
All Causes				4451	247	44	57	68	138	461	1149	2287	92	464	2072
Sub-entries included in above figures	18 Arterio-sclerosis .. ..	..	..	165	..	..	..	..	1	1	42	121	5	3	30
	35 Poliomyelitis .. .. .	..	..	1	..	..	..	..	..	..	..	1	..	..	..
	Erysipelas .. .. .	..	..	4	..	..	..	..	1	..	3	..	..	5	4
	Rheumatic fever .. .. .	..	..	36	..	..	..	8	8	11	8	1	..	2	15

1935.

Causes of death in registration sub-districts.

CAUSE OF DEATH			DEATHS IN DISTRICTS AT ALL AGES.									
			All ages	Ashley	Bristol South	Bristol Central	Clifton	St. George	Stapleton	Westbury-on-Trym	Municipal Institutions (home unknown)	Port Cases
Certified			4,450	686	1,073	446	507	877	560	274	27	..
Uncertified			1	..	1	..	..	..	..	..	..	..
1 Typhoid and paratyphoid fevers ..			..	..	..	..	..	..	..	..	..	..
2 Measles			14	1	4	2	1	2	4	..	..	..
3 Scarlet fever			9	..	1	3	..	1	2	2	..	..
4 Whooping cough .. ..			..	..	..	..	..	..	..	..	..	..
5 Diphtheria			12	1	1	1	2	5	..	2	..	..
6 Influenza			32	4	6	2	1	11	6	2	..	..
7 Encephalitis lethargica			3	..	..	..	..	3	..	..	..	..
8 Cerebro spinal fever			7	1	3	1	..	1	..	1	..	..
9 Tuberculosis of respiratory system ..			293	29	88	31	17	82	31	14	1	..
10 Other tuberculous diseases			36	5	15	..	5	2	6	3	..	..
11 Syphilis			14	..	3	4	..	2	1	3	1	..
12 General paralysis insane, tabes dorsalis			7	1	3	..	1	..	1	..	1	..
13 Cancer, malignant disease			672	112	164	59	87	135	82	33	..	..
14 Diabetes			65	13	15	3	9	11	5	9	..	..
15 Cerebral haemorrhage, etc.			268	21	76	21	32	58	41	18	1	..
16 Heart disease			1,098	178	237	123	144	192	156	59	9	..
17 Aneurysm			14	1	7	2	1	1	2	..	..	..
18 Other circulatory diseases			176	36	31	24	21	37	17	10	..	..
19 Bronchitis			107	12	32	14	9	18	16	5	1	..
20 Pneumonia (all forms)			224	30	59	27	20	58	24	14	2	..
21 Other respiratory diseases			96	15	23	8	9	20	14	4	3	..
22 Peptic ulcer			49	10	13	4	4	7	8	2	1	..
23 Diarrhoea, etc.			34	3	9	6	3	8	4	1	..	..
24 Appendicitis			29	4	7	2	4	5	6	1	..	..
25 Cirrhosis of liver			11	3	3	..	1	1	1	2	..	..
26 Other diseases of liver, etc.			19	4	2	2	4	3	3	1	..	..
27 Other digestive diseases			63	8	14	7	8	7	12	7	..	..
28 Acute and chronic nephritis			184	37	31	8	26	38	15	19	1	..
29 Puerperal sepsis			5	..	2	..	..	1	..	2	..	..
30 Other puerperal causes			10	..	4	1	..	4	1	..	..	..
31 Congenital debility, premature birth, malformations, etc.			174	23	55	10	19	35	18	14	..	..
32 Senility			165	38	34	19	21	21	24	6	2	..
33 Suicide			61	9	12	8	10	13	7	2	..	..
34 Other violence			133	20	34	17	11	25	14	10	2	..
35 Other defined causes			366	67	86	38	36	70	39	28	2	..
36 Causes ill-defined or unknown			1	..	..	..	1	..	..	..	..	..
All causes ..			4,451	686	1,074	446	507	877	560	274	27	..
Sub-entries included in above figures	18 Arterio-sclerosis ..	165	34	26	23	20	37	17	8	..	..	..
	35 Poliomyelitis ..	1	1	..	..	..	..	..	..	..	..	..
	Erysipelas ..	4	2	..	..	1	..	1	..	..	..	..
	Rheumatic fever ..	36	5	6	2	5	12	4	1	1	..	..
Deaths of infants under 1 }				30	78	23	23	49	27	17	..	..

II.—GENERAL PROVISION OF HEALTH SERVICES.

Laboratory facilities—ambulance facilities—home nursing—clinic and treatment centres—hospitals—blood transfusion service—hospitals council—hospitals administration—recovery of cost of maintenance — hospital almoner — hospital development — farms and gardens—dental services—consultative staff—training of nurses—nursery nurses—cooking and service arrangements—local government act, 1929—poor law medical outrelief — national insurance medical service—mental deficiency—health education—municipal aerodrome—shops acts—swimming baths and pools.

II.—GENERAL PROVISION OF HEALTH SERVICES.

Officers.

The public health officers of the authority have been enumerated as whole-time and part-time officers on page v. of this report. All officers of the local authority hold the requisite certificates or qualifications required for their appointments.

Laboratory facilities.

The joint scheme with the university for the provision of laboratory facilities for the city council (see page 29, report 1932) has been revised to meet the circumstances arising on the retirement of the present director in July, 1936, when the medical officer of health will assume more general responsibility for the supervision of the department.

Reports by Professor I. Walker Hall, M.D., the director, on the work of the preventive medicine laboratory for the city in 1935 and by Mr. F. E. Needs, F.I.C., the public analyst, will be found appended to this report.

Ambulance facilities.

Service by	Infectious cases.	Non-infectious cases
Health Committee	2,859	—
Public Assistance Committee ...	—	3,737
City and Marine Ambulance Corps	—	6,372
St. John's Ambulance Corps ...	—	8,012

There are no changes from last year in the arrangements for the transport of infectious, non-infectious, accident and maternity cases to record. In 1935, public ambulance services removed 20,980 cases.

Nursing in the home.

The arrangement for nursing the sick in their homes is provided in Bristol solely by private societies and institutions as detailed in my report for 1930. Since August, 1931, the Health Committee has made grants of 25/- per case to the Bristol and Clifton District

Nurses Society for nursing approved cases of tuberculosis in their own homes. During the year the society undertook the nursing of 36 cases making a total of 151 cases nursed since the arrangement began.

The funds of this society and other district nursing associations, are subscribed to by the Public Assistance Committee, on behalf of the Corporation, in recognition of their valuable work to the community, which doubtless relieves considerably the pressure on the hospitals and sick institutions of the city.

Clinics and treatment centres.

Clinics.	School medical	Maternity and child welfare.	Tuberculosis.	Venereal disease.	Others (voluntary)
General	5*	—	1	—	—
Inspection only ...	1	—	—	—	—
Cardio-rheumatic ...	1	—	—	—	—
Orthopaedic	1	—	1	—	—
Artificial sunlight ...	—	1	1	—	—
Diphtheria immunisation ...	1	—	—	—	—
Ante-natal	—	10	—	—	—
Post-natal	—	1	—	—	—
Infant welfare	—	3	—	—	21
Mothercraft	—	1	—	—	—
Backward children ...	—	1	—	—	—
Venereal disease ...	—	—	—	1	—
Radium centre	—	—	—	—	1

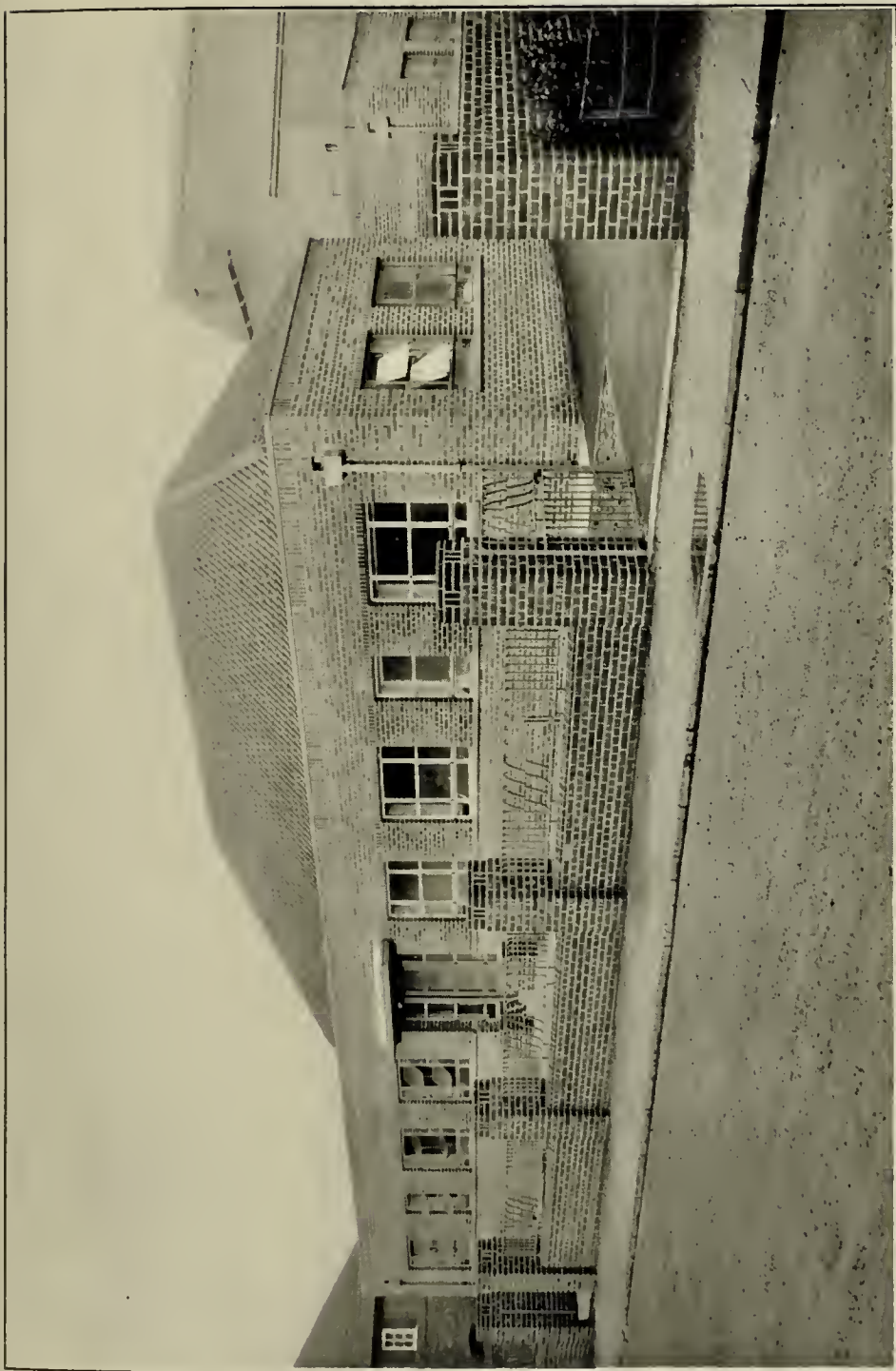
* This includes the joint school and maternity and child welfare at Shirehampton (Portway).

In addition, there are out-patient and casualty departments attached to all the voluntary general hospitals.

The *school medical inspection clinics* provide for the treatment of minor ailments, ear, nose and throat diseases, zinc ionisation, dental treatment, refraction work, X-ray treatment, massage and electrical treatment and remedial exercises. The *maternity and child welfare clinics* provide, in addition to the main types of ante-natal and post-natal clinics, sessions for artificial sunlight radiation, lactation problems and for the backward child. Minor ailments, rickets, dental troubles and eye diseases in children under five years of age are referred to the Education Committee's school clinics. The *tuberculosis clinic* also provides sessions for artificial pneumothorax and ear, nose and throat treatment.

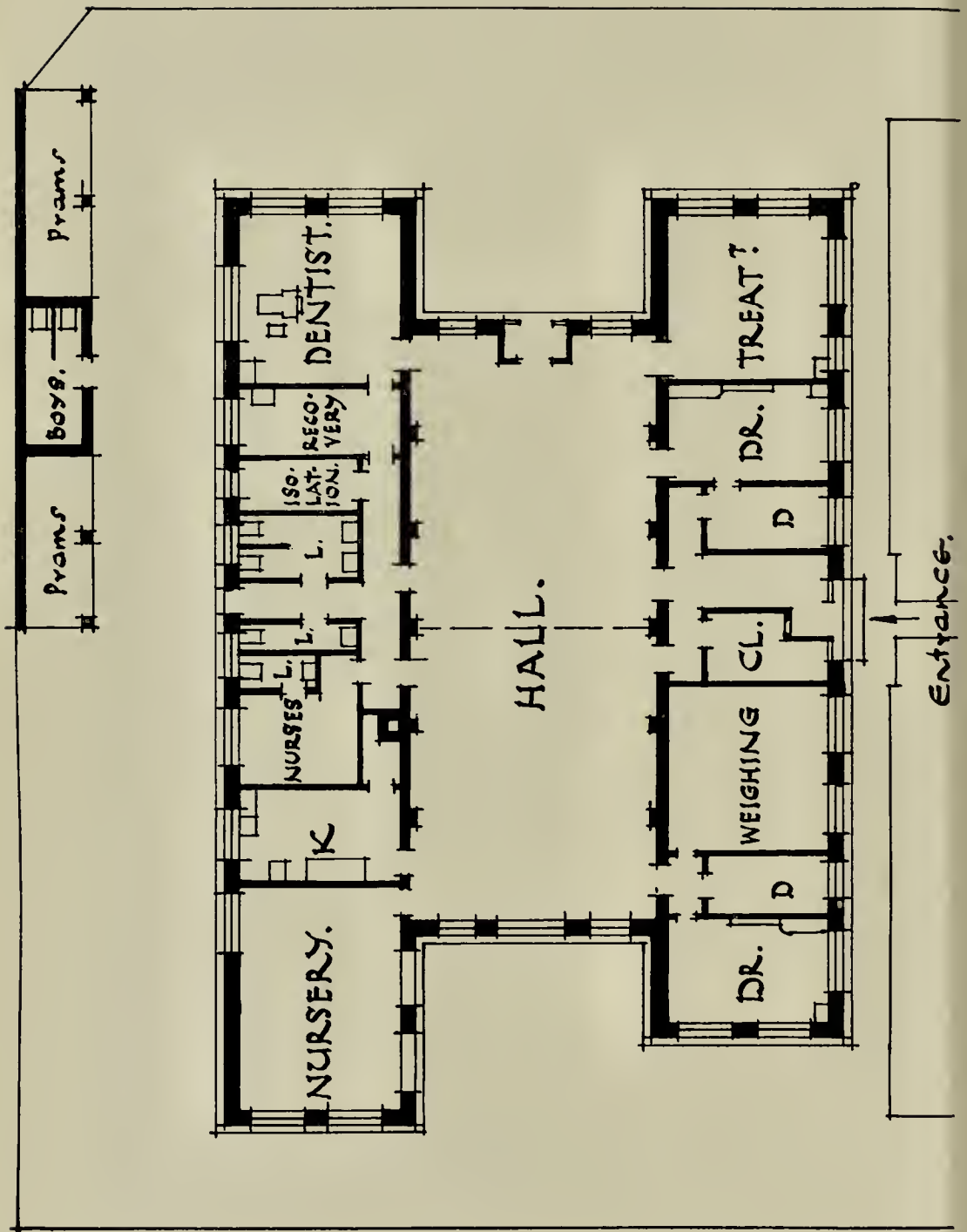
Central clinic.

In December 1934, the Council approved the joint proposal of the Health and Education Committees to construct a central clinic at Passage Street and Marybush Lane, St. Philip's, a site which was selected because it is directly accessible from the north, south and east of Bristol, and moderately accessible from the west side of Bristol. Tram communications from all parts of the city converge near the site which is an area of 1,940 square yards. Plans of the new central clinic have been prepared to provide special facilities for maternity and child welfare, school medical and tuberculosis services and to provide office accommodation for the outdoor nursing staff



PORTWAY JOINT CLINIC.

PLAN OF PORTWAY JOINT CLINIC.



and the clinical medical officers within the clinics. The maternity and child welfare section will contain consulting rooms, nursery, sunlight room, isolation room and women's lecture and waiting rooms, etc. Consulting rooms and dispensary waiting rooms, light treatment, plaster, X-ray rooms, etc., will be provided for the tuberculosis service. Separate accommodation will also be available for the school medical service consisting of consulting rooms, waiting and treatment rooms, special rooms for X-ray examination, dental treatment and ear, nose and throat, and eye cases.

Total estimated cost of the scheme including the value of the site is £53,062. It is hoped that the clinic will be erected and working towards the end of 1936.

Portway joint school clinic and maternity and child welfare centre.

This joint clinic, which has been constructed at St. Bernard's Road, Shirehampton at a cost of £6,537 and was officially opened on the 10th October, 1935, is described on page 8 of the report on the school medical services. It was also the subject of a special report during the year entitled "Filling the gaps in the public health medical services—an experiment." The architect's plan and an external view of the completed clinic are given.

Fishponds and Bedminster joint clinics.

The Council's policy of co-ordination in the matter of school and pre-school clinical services was carried another step forward during the year by the decision in December, 1935 to erect combined school and maternity and child welfare clinics in the districts of Fishponds and Bedminster, one at Whitefield Road, Speedwell and the other at St. John's Lane, Bedminster. The first-named will serve the districts of Fishponds, Speedwell, St. George, Two Mile Hill, and a portion of Eastville which have an estimated population of 62,000 including 3,100 children under five years and 10,353 children on school registers. The second will serve the districts of Bedminster, Southville, Bedminster Down, Ashton Gate, Lower Knowle and Knowle West, with an estimated population of 64,000 including 4,600 children under five years and 12,693 children on school registers. In both areas the work is at present carried on in premises which are not adequate or properly suited for the purpose and which do not enable certain services which are essential for the maternity and child welfare work of the Council to be provided.

The following services will be available at both clinics :—

Medical inspection of school children.

Continuous minor ailment clinic.

Treatment of diseases of the skin, eyes, ears and throat.

Dental treatment.

Refraction.

Maternity and child welfare.

The estimated cost of the buildings is :—

Fishponds clinic	...	£7,577.
Bedminster ,,	...	£7,106.

Hospitals.

My report for 1930 contained a full list of hospitals (other than private hospitals) in the area, together with the type of case treated and accommodation available. Briefly there are six general hospitals providing 1,505 beds and out-patients departments for all kinds of medical, surgical and gynaecological cases; two eye institutions (75 beds); two orthopaedic hospitals including one providing for rheumatic heart cases and one for surgical tuberculosis (164 beds); four medical dispensaries dealing with patients at dispensary or in the home. These institutions are supplemented by 17 private hospitals and nursing homes for medical, surgical and maternity cases (273 beds) and 11 nursing homes chiefly for elderly people.

Blood transfusion service.

A complete voluntary service for supplying donors for blood transfusion has been organised by a voluntary committee assisted by Toc H. 150 donors who have been tested and grouped are available free of charge but patients who can are expected to make a donation towards the society.

Bristol Hospitals Council.

For the purpose of section 13 of the Local Government Act 1929, the Bristol Hospitals Council has been recognised by the Council, and this body is consulted on questions affecting hospital provision in Bristol. The Bristol Hospitals Council which was formed in 1929, includes the Lord Mayor, the Vice-Chancellor of the University (as chairman) and representatives of all voluntary hospitals as well as of the Health and Public Assistance Committees. The medical officer of health is also a member ex-officio.

Hospital administration.

The administration of the Health Committee's institutions is centralised at the health department under the medical officer of health. To deal with the various matters arising at the hospitals, the following sub-committees of the Health Committee have been appointed, viz. :—

Financial expenditure is governed by the Health Committee acting as the accounts and contracts committee.

Questions affecting extensions, upkeep of buildings, plant, etc., are dealt with by the Public Health Institutions sub-committee.

Matters relating to staff and allied questions by the Staff sub-committee.

Recovery of cost of maintenance of patients admitted to hospital by the Assessment sub-committee.

Admissions of patients to any of the institutions are arranged through the medical officer of health to whom applications are made. A resident caretaker is on duty at the health department offices and a 24-hour service is given to the public.

In cases of great urgency the relieving officer can admit cases to the municipal general hospital.

Recovery of cost of maintenance.

Assessments are made by a special sub-committee of the Health Committee. Enquiries into circumstances of patients and their relatives are carried out by investigators who are on the staff of the Public Assistance Committee. Agreements under section 16 of the Local Government Act, 1929, have been entered into by the Health Committee with the employees medical fund committees of several large firms in the city. The committee of the Bristol Medical Institutions also have an arrangement with the Health Committee for the benefit of members of their contributory scheme and their dependants who are admitted to Southmead Hospital.

The change in the type of case treated, combined with the shorter stay of patients, has increased the difficulty of collecting amounts due to be paid for treatment, and has intensified the need of a hospital almoner at Southmead Hospital. At the present time this essential hospital service is the concern of no less than three corporation departments (apart from the town clerk's department), viz., the health department for treatment, public assistance for investigations, and the city treasurer's for collection; and the correlation of the work of the respective officers concerned, working in separate offices, produces delay and loss of income to the Corporation. The duties of a hospital almoner are much wider than the assessment and collection of amounts. Many of these other duties have never been attempted at Southmead and should be undertaken.

The following table illustrates that the number of patients becoming chargeable to the Health Committee is increasing, whilst public assistance cases are diminishing in number :—

NUMBER OF CASES ADMITTED TO SOUTHMEAD HOSPITAL.		
	*1934.	*1935.
Health Committee cases—including maternity)	1558	1933
P.A.C. cases 	1347	986
*During the first 48 weeks of the year.		

The Health Committee on the recommendation of the Assessment sub-committee has agreed in principle to

- (1) The appointment of a certified hospital almoner at Southmead Hospital (certificated in conformity with the standard laid down by the Institute of Hospital Almoners), and it is hoped that this appointment will eventually be made.

The almoner will be responsible for collecting as much as she can in cash of all amounts due in respect of cases at the hospital on the day she commences her duty, and all future cases. After patients have left the hospital, the city treasurer will arrange for the collector from his department to help with the collection of any such amounts. The city treasurer's department will be also responsible for the collection of the amounts due from all cases who have left the

hospital prior to the date upon which the almoner commences her duty.

- (2) Adopt a general scale of contribution for hospital treatment and maintenance (based on net income), to which the almoner shall work. All assessments made will be reported to the Assessment sub-committee. This scale will apply to all patients admitted to the institutions administered by the Health Committee except for infectious diseases and tuberculosis.

The assessment rules which are a basis for assessing ordinary cases in which no special circumstances exist, will be reviewed if necessary after a period of trial, so as to rectify any anomalies which may have become apparent in practice. Cases of special difficulty will be dealt with by the committee and with the assistance of an almoner who has actual knowledge of the families concerned, it is felt that assessments will be made on a more equitable basis. Other points in the assessment rules are: (1) Individual assessments to be reviewed and revised if necessary every two months; (2) at the time of notifying the first assessment, notice to be given that an appeal against such assessment must be made within seven days, and that such appeal must state the full grounds on which it is made. Appeals can be made at any time if there is a change in family circumstances. A voluntary offer would be accepted if it approximates closely to the amount of assessment calculated in accordance with the assessment rules, and in this connection the almoner should be allowed to use her discretion and would report her decisions to the committee.

Municipal hospital development and extension.

Novers Hill Hospital was erected as a smallpox hospital in 1893/4 and provided a maximum of 62 beds. In recent years, owing to the absence of that disease from the city, it has been mainly used as an additional infectious disease hospital under the clinical supervision of the medical superintendent of Ham Green Hospital. For this reason and because of difficulties arising from the enforced sterilization of the land within a quarter mile of its boundaries, the Health Committee have considered the disposal of the hospital and the establishment of alternative accommodation at Ham Green. Such a procedure would enable the land adjoining the hospital to be used for building purposes and effect a considerable saving on establishment and other charges at Novers Hill. In January, 1934, the Council approved a joint report by the Health and Education Committees recommending the appropriation of Novers Hill Hospital as a residential open-air school and authorised the Health Committee to prepare plans and estimates for the provision of smallpox accommodation at Ham Green Hospital in lieu of the existing accommodation at Novers Hill. Plans were submitted and approved by the Council in February, 1935, after preliminary approval by the Ministry of Health. This smallpox accommodation which is planned as a unit, occupying an isolated site (enclosed within a ring fence) situated at a distance of approximately 200 yards from any neighbouring building consists of three blocks with a unit for disinfectant, ablution block and mortuary and a fourth block for ordinary infectious disease cases.

(1) *Block of 14 beds.*

Reserved for emergency smallpox cases comprising one 6-bed ward, one 4-bed ward and 4 single-bed cubicle wards—two each at either extremity of the block. In view of the fact that a self-contained smallpox hospital must be available at all times, accommodation for four resident nurses is arranged (with external approach) on an upper floor over part of this block and the kitchen on the ground floor is (with its stores) of capacity sufficient for dealing with the culinary requirements of the segregated patients and nurses—48 persons in all.

(2) *Block of 30 beds.*

In the absence of smallpox will be used for cases of general infectious disease. This ward block is cruciform in plan with the duty room placed centrally—a position which affords full observation of the 10 single-bed cubicle wards and the 10 two-bed wards arranged in the wings.

(3) *Block of 28 beds.*

This block will be used for general infectious disease only and is planned as an addition to the existing groups of infectious disease blocks. In plan and arrangement it is identical with the 30-bed ward block described above except that a small operating room takes the place of a two-bed ward in the N.W. wing leaving it with 9 two-bed wards, instead of 10 as in the other block and 10 single-bed cubicle wards.

(4) *Accommodation for additional nurses.*

The scheme provides for the completion of the nurses home by adding first and second floors above the existing ground floor N.W. wing which was designed for that purpose. Sixteen beds in all will be available for nurses. The total cost of the buildings including addition to the laundry will be £46,500 (approx.) It is expected that the buildings will be completed in the autumn of 1936.

This scheme in addition to replacing the accommodation at Novers Hill includes 10 beds to meet the needs of an adjacent portion of Somerset County, for which they will pay a proportionate part of the total sinking fund and interest payments, together with the full cost of maintenance of the beds.

Farms and gardens.

During the year the Farms Committee appointed by the Council on the 9th November, 1934, reported on "the question of the desirability of unifying control of the farms, etc., controlled by various committees" at Ham Green (363 acres) Frenchay Park (61 acres), Southmead Hospital (38 acres), Hortham Colony (60 acres), Mental Hospital (23 acres), Barrow estate (170 acres), Stapleton Institution (86 acres) and Eastville Institution (10½ acres) a total of 811½ acres of pasture, arable and cultivated land.

The committee reported that as far as is practicable production of crops is in all cases planned to meet the requirements of the respective institutions and generally speaking, very little produce is

purchased. The areas farmed by the Mental Hospital and Eastville Institution is restricted in relation to the requirements of the institution and while the area of the estate at Ham Green is large the main object in acquiring the land was to form a belt to isolate the hospital and sanatorium, to ensure a satisfactory food supply and to preserve the supply of water. The committee agreed that the farms and gardens cannot be regarded as units independent of and apart from the institution.

The committee reported that there was scope for co-operation between the committees and improvement in matters of detail and recommended the setting up of a Farms Committee consisting of representatives nominated by the various committees concerned, together with an independent chairman appointed by the Council. This committee will deal with major questions of policy in order that the different institutions may be worked as far as possible on one general plan with a common objective to cover all the farm produce needs of the Corporation and the most advantageous disposal of any surplus; questions of detailed management will be left to the different institutional sub-committees. Its most important duty will be to advise the Council in general on general farming policy on which it will be guided by the advice of an executive officer. Mr. Bloodworth, bailiff at Ham Green was appointed to this position. The Council adopted the recommendation contained in this report on 8th October, 1935.

Dental services.

During the year, on the recommendation of the Co-ordination of Medical Services sub-committee, an additional joint dental surgeon (J. D. Rees, Esq., L.D.S., R.C.S.) and dental attendant were appointed to cope with the increase in dental work under the maternity and child welfare scheme. Mr. Rees took up his appointment in November, 1935. This work is carried out by school dental officers whose strength (4) was first supplemented in 1932 by the appointment of a joint dental surgeon for duty at the Southmead infant welfare clinic and at all city hospitals, sanatoria and institutions (H. Hazell, Esq., L.D.S., R.C.S., Eng.) The two joint appointments were made by the Health Committee. The Education Committee have, in addition, approved a fifth full-time dentist to be appointed when a suitable building is available. Mr. Hazell's report on his work in so far as the hospitals and maternity service are concerned is appended to this report.

Consultative staff.

Arrangements for co-ordinating the medical services of the city were described last year (p. 38). Since then Mr. A. W. Adams has been appointed surgeon to the genito-urinary department at Southmead Hospital and has been succeeded by Mr. R. V. Cooke as general surgeon.

Training of nurses.

The General Nursing Council has approved of all the Health Committee's hospitals as training schools for nurses. Southmead Hospital is approved for training for admission to the general part

of the register and Ham Green isolation hospital for the supplementary part of the register for fever nurses. Agreements have been entered into with the Wiltshire County Council, and the Bath and Exeter County Boroughs, enabling nurses commencing training with these authorities to complete their training for admission to the general part of the register at Southmead Hospital.

The approval of the affiliation of Frenchay Park sanatorium and orthopaedic hospital to Southmead for training purposes permits probationer nurses who are engaged at Frenchay Park for two years to complete their general training at Southmead Hospital. During the year permission was granted to the General Nursing Council to hold the oral and practical parts of the state examination (general and fever) at Southmead Hospital and Ham Green Hospital respectively.

Nursery nurses training scheme.

Following the appropriation of certain houses at the Downend Homes for the reception and maintenance of infants under five years, a scheme has been developed for the training of suitable girls as nursery nurses and for this purpose the Babies' Home has become affiliated to the National Society of Day Nurseries. Details of the complete training scheme will be found on p. 60.

Cooking and service arrangements.

In pursuance of the Committee's policy of developing Southmead Hospital on modern lines appertaining to a general hospital for the treatment of all forms of sickness, the utmost care in the preparation and service of diet is an extremely important factor. The Health Committee have appointed a woman officer specially trained in domestic science and housekeeping. This officer commenced duty in September, 1935, with control of the kitchen thus placing this important branch of hospital service under expert supervision. A similar appointment was made at the main isolation hospital in 1934.

The reports of the medical superintendents of the municipal hospitals for 1935 are appended to this report. The following table gives an idea of the work of the voluntary hospitals :—

HOSPITAL.	Total no. of beds.	Average no. occupied	No. of in- patients	No. of out- patients
Bristol Royal Infirmary ...	436	361·8	9,745	71,632
Bristol General Hospital ...	273	253·96	5,387	39,100
Bristol Royal Hospital for sick children and women ...	120	74·84	1,745	5,199
Cossham Memorial Hospital	90	66	1,371	1,865
Bristol Homoeopathic Hospital	78	66·1	1,263	18,018
Bristol Eye Hospital ...	71	*36·43	840	14,647
Bristol Maternity Hospital and Temporary Home ...	39	18·6	399	—
Walker Dunbar Private Hospital for women and children	32	19	237	2,908

* Some wards temporarily out of use owing to rebuilding operations.

Local Government Act, 1929.

My report for 1930 detailed the services transferred under the provisions of the Local Government Act and delegated to the Health Committee under the administrative scheme approved by the Council. There have been no amendments of the scheme as approved by the Ministry of Health since those referred to in the introduction to this report last year.

Poor law medical out-relief.

There has been no change in regard to the policy of medical out-relief, which is under the Public Assistance Committee, since its transfer to the Council. In 1935 the city was divided into twelve relief and medical districts with the medical staff under the general direction of the medical officer of health. These are detailed below. Cases requiring hospital treatment are admitted to Southmead Hospital.

District medical and relief officers.

Dis- trict	Medical Officer.	Surgery.	Relieving Officer and Depot.	
1	Dr. G. M. Evans	St. Peter's Hospital	Poole, A. J.	St. Peter's Hospital
2	Dr. H. W. Brassington	20 Pritchard St., St. Paul's	Hooper, H. C.	20, Pritchard Street
3	Dr. J. A. L. Roberts	Bourne Hall (Eastville)	Chudleigh, W. J.	Bourne Hall
4	Dr. J. M. Evans, jun.	112, Avonvale Road	Creech, B.	112, Avonvale Road
5	Dr. W. F. Paramore	Methodist Chapel Hall, Harrowdene Rd. Knowle	Dixon, C.	Harrowdene Road
6	Dr. G. Stenlake Mundy	Mill Lane, Bedminster	Sanders, A. J.	Mill Lane
7	Dr. G. Stenlake Mundy	Mill Lane, Bedminster	Dodds, E. S.	Mill Lane
8	Dr. D. Hall Beatson	St. Peter's Hospital	Young, F. A.	St. Peter's Hospital
9	Dr. S. B. Green (for Westbury, South- mead, Henbury, etc.) Dr. F. W. Brown (for Sea Mills, Kings- weston, Shirehampton and Avonmouth)	The Black Wicket, West- bury Road, and 14, Maple Rd., Horfield Penn Hill, Station Road, Shirehampton, and at Park House, St. Andrew's Road, Avonmouth	Arrand, E.	18, Eastfield Road, Westbury
10	Dr. S. B. Green	14, Maple Rd., Horfield	Hyett, G.	Chapel Hall, Wesley Rd., Gloucester Road
11	Dr. J. A. L. Roberts	Eastville Relief Depot	Hewlett, A. J.	Eastville Relief Dpt.
12	Dr. G. C. Foss	St. George Parish Hall, St. George	King, F.	St. George Parish Hall, St. George

(Note.—Hours of attendance—Relieving officers, 9 to 11 a.m. and 4 to 5 p.m.)

National Insurance medical service.

The clerk to the Bristol Insurance Committee informs me that the total number of insured persons in the city under the National Health Insurance Acts was 165,793 on 1st January, 1936, roughly 40 per cent. of the population. This is an increase of 2,611 on the corresponding figure for 1935. The prescriptions dispensed during the year (692,613) and the scripts issued (515,862) also show pro rata increases. There are 172 doctors, including assistants, on the medical panel.

Mental deficiency.

The following classes of persons who are mentally defective come within the Mental Deficiency Acts 1913/1927 or the Mental Treatment Act 1930—idiots, imbeciles, feeble-minded persons and moral imbeciles as defined by the Act of 1927. It is the duty of the local authority to provide supervision by way of care or training or for their emplacement under guardianship or in an institution. By the Local Government Act 1929 the committee acting under these Acts has exclusive control of mental defectives but in Bristol the Council has, after specially considering the desirability of merging the work, delegated the care of mental defectives to three committees, i.e., the Mental Hospital Committee, the Mental Deficiency Committee and the Public Assistance Committee, with a joint committee composed of representatives of the three committees to ensure effective co-operation and remove difficulties.

Institutional provision for the care of mental defectives.

The Mental Deficiency Acts Committee have provided residential accommodation for 608 cases of both sexes at Hortham Colony, Almondsbury, nr. Bristol, for the care and training of mental defectives. Occupation centres, which provide training for defectives under supervision and guardianship, have been established for adult males and females and juveniles up to the age of 16 years. At the end of the year the Council was responsible for 1,387 defectives who are dealt with as follows :—

In institutions	...	567
Under supervision	...	754
Under guardianship	...	56
Cases pending	...	10

The Mental Deficiency Acts Committee submit a separate report on their work.

Medical arrangements under Mental Deficiency Acts, 1913/27.

Medical assistance is required to be provided for all cases who are not resident in certified institutions in the following circumstances :

1. Certification of cases.
2. Reconsideration of cases (section xi).
3. Medical attendance on cases under 'guardianship.'

(1) The petition for an order of detention under the Mental Deficiency Act must be accompanied by two medical certificates one of which must be given by a certifying officer approved for this purpose.

The present certifying officers are :—

Dr. J. O. Symes

Dr. D. Hall Beatson

Dr. J. Morton Evans, Junr.

Dr. E. Casson.

(2) The visitors carrying out a duty under section xi of the Act must have with them a medical practitioner appointed for the purpose by the Sheriff.

The present medical visitors are :

Dr. W. Cory

Dr. A. Cornall

(3) By regulation 80 of the Ministry of Health, the local authority shall make arrangements to the satisfaction of the Board of Control for the provision of suitable medical attendance on cases under 'guardianship.' In each case the provision made is reported to the Board. This usually rests between who is the nearest medical practitioner or the usual medical attendant. There is no definite scale of fees, the fees payable being those prevailing in the district in which the patient resides. In practice these vary from 2/6 per visit including medicine to 4/6 to 5/- per visit for patients living in residential districts.

Visits are paid to the Park Row occupation centres by assistant medical officers of health but these visits are usually for administrative reasons or on specific request. There is no general medical inspection or treatment for the patients at any of the centres except dental inspection. The voluntary hospitals are used in cases of emergency and we also have the advice and assistance available at the Read Dispensary by Dr. Casson, a certifying officer to the local authority.

Health education.

During the year the public health staff continued to give health lectures and demonstrations on problems dealing with public health to social, religious and political organisations, and meetings were addressed in addition to the usual lectures at the mothers' schools, clinics, etc. The Bristol branch of the Social Hygiene Council is actively engaged in this work, particularly in relation to social problems including venereal disease and the creation of general interest in biological subjects. The Health Committee makes a grant to the Social Hygiene Council of £135 of which two thirds is allocated to the local branch. In every possible way due prominence was given to constructive health work and preventive measures necessary to combat disease, in order to improve the general standard of health of the people.

Eight advertising hoardings in different parts of the city have been used throughout the year for the purposes of health propaganda and sets of posters designed by the Central Council for Health Education have been published.

The health department also co-operated with the Bristol division of the British Medical Association in the compilation of a most useful handbook of local hospitals, nursing homes, medical services and charities. The purpose of this handbook is to supply that special information concerning the medical and social services of Bristol which medical men are so constantly requiring, such as conditions of admission, attendance of consultants, charges made and information relating to social and welfare services, public and private.

Bristol Municipal Aerodrome.

In Feb., 1934, the Ministry of Health investigated the measures necessary to give effect to the International Sanitary Convention for Aerial Navigation.

The Convention has not yet been ratified but it is expected that in due course its application to this country will be effected by the issue of special regulations comparable to the Port Sanitary Regulations 1933 by which the necessary sanitary control of maritime traffic is provided. The Ministry considered it would, in the meantime, be advantageous to institute at aerodromes in this country interim medical arrangements on the lines contemplated in the convention.

The convention provides that certain aerodromes are to be designated as sanitary aerodromes, and one of the conditions to be fulfilled by such an aerodrome is that its medical officer shall be an official of or approved by the competent sanitary authority. Having regard to the fact that the Bristol aerodrome is owned by the Corporation, it was considered advantageous that the medical officer of health should be appointed medical officer of the aerodrome and as such placed in general control of the medical and sanitary arrangements. This suggestion which was adopted in April by the Airport Committee coordinates the sanitary duties of the airport (including customs immigration and isolation of infectious disease) with that of Health Committee. The municipal aerodrome has now been equipped as a class I aerodrome, and complies generally with the conditions specified in Air Ministry pamphlet no. 55 (August 1934) for such aerodromes.

In addition, provision has been made for a passenger station which will include a control room, customs office, booking offices, luggage counter and manager's office. The aerodrome has also been selected by the Air Ministry for the establishment of wireless and meteorological stations. The Airport Committee issues a separate report on the work and development of the aerodrome.

Shops Acts 1912 to 1934.

As reported last year the whole of the duties of the Council under these Acts were transferred from the Watch to the Health Committee by resolution of the Council dated 14th May, 1935. The Shops Act, 1934, imposed extensive additional duties upon local authorities including sanitary provisions and the duties were delegated to the Health Committee in order to secure unification of the control and economy in time and expense.

Prior to the transfer the work was undertaken without assistance by the inspector appointed under the original Act. It is estimated that there are approximately 10,000 retail and 15,000 wholesale shops and warehouses in the city which are affected by the Shops Act 1934. The transfer of the work to the health department has enabled the sanitary inspectors to be made entirely responsible for the part of the Act dealing with sanitation, heating, lighting and ventilation, etc., This is the work for which their training makes them specially suitable and they will, moreover, be of great assistance in revealing other cases which can be handed over for further detailed investigation to the Shops Acts inspectors.

Two additional Shops Acts inspectors (1 female and 1 male) were appointed in August making three whole-time inspectors employed in the enforcement of the Shops Acts.

Report by Mr. S. J. Cann, Shops Acts Inspector.

Statistics.	1935
No. of shops visited	1,639
No. of re-visits	492
No. of minor infringements detected	902
No. of verbal warnings	3
No. of warning letters	9
No. of prosecutions	22
No. of convictions	22
Cases pending	4

The Act of 1934, which came into force on December 30th, made drastic changes in the permissible number of hours that a "young person" under 18 years of age could be employed about the business of retail and wholesale shops or warehouses.

It also provides for a statutory weekly half-holiday for many "young persons" excluded in the previous Acts. The health and comfort of assistants generally are provided for by the provision of seats for female assistants and the maintenance of suitable and adequate means for washing and taking meals, heating, lighting and ventilation and the provision of adequate sanitary conveniences in all shops.

Concentration on the 1934 Act has been the chief work of the inspectors since August and systematic daily inspections are being made to see that shopkeepers are keeping the many prescribed forms and exhibiting the requisite notices. In many instances it has been found that young persons were working more hours than allowed and when the attention of employers was drawn to this, many threats were made that the young persons would have to be discharged and older ones employed. It is not thought that this was done to any great extent and things have now settled down to quite normal conditions.

The juvenile labour department of the Ministry of Labour now tell prospective employers and young persons what hours they can legally be employed in or about a shop and this has helped considerably. H.M. inspectors of factories also work in close harmony with this department, as we do with them.

Since August, every shop in Bishopsworth, St. Philips Marsh, Southmead, Upper Horfield, Henleaze, Westbury-on-Trym, Sea Mills, Stoke Bishop, Shirehampton and Avonmouth has been inspected as well as a large number in Bedminster, Clifton and the city.

No new evening closing orders have been asked for or made throughout the year, the number at present being nine. Deputations have been received from the Jewellers and Fish Caterers Associations suggesting that alterations should be made in their existing orders, but no formal application has yet been made by them for alteration.

A large number of enquiries have been received and dealt with respecting the different acts and closing orders. Periodical

inspections have been made at night throughout the year to see that the Hours of Closing Act and orders were being obeyed.

Many shopkeepers have been warned for minor infringements of the Acts and orders. 38 cases were reported to the Health Committee, and subsequent legal proceedings had the following results:—

- In 3 cases verbal caution was given.
- „ 9 cases letter of caution was sent.
- „ 1 case defendant was ordered to pay 2/6 costs.
- „ 2 cases defendants were fined 5/-
- „ 16 cases „ „ „ 10/-
- „ 3 cases „ „ „ 20/-
- „ 4 cases proceedings are pending.

Particulars of any action taken during the year under the provisions of the Shop Act, 1934 relating to ventilation and temperature of shops and to sanitary conveniences will be found in the report of the chief sanitary inspector who is responsible for that part of the Act.

Swimming baths and pools.

During the year under review Circular 1503 was received from the Ministry of Health and referred to me for action.

The deputy medical officer of health made a comprehensive survey of all the swimming baths and pools open to the public in Bristol. There are twelve baths owned by the Corporation including four open-air baths, and three privately-owned pools open to the public are known to the department.

Dr. Morison reported upon all these baths according to his scheme as follows :

(1) *Physical conditions.*

- (a) Size of bath (depth for diving safety from any considerable height—7½ ft.)—Length ; breadth ; depth. Structure of walls and bottom of bath ; Bath surround—Any slope from the bath ? Is surround effectively drained ?
- (b) Ventilation of bath hall : Number of boxes ; Any overcrowding in boxes ?
- (c) Is water free from contamination on entering ? Source of water (Bristol Company water, springs, etc.) ; Any contamination from surface drainage, percolation, vegetation ?
- (d) Contamination from bathers—Is shower, footbath, provided ? Is there hot water and soap ? Is there lavatory accommodation ? (If mixed bathing, separate lavatories for sexes). Towels and costumes—If provided by owners of bath, are facilities adequate for washing and sterilising ?

(2) *Purification of water.*

(Standard : efficient continuous filtration with continuous accurately controlled chlorination).

- (a) Is there constant flow of water into and out of bath ? Springs, etc.—is flow controlled by inlets and outlets ?

(b) Is there any method of purification? (i) Natural, e.g., spring sources compensating for evaporation and other losses; (ii) Fill and empty system: What criterion used for need of refill? How often refilled? Is bath cleansed and scrubbed down, and washed out when empty? (iii) Chemicals without filtration: What chemicals? What dose? What criterion for control of dose? (iv) Continuous filtration: What is the filter?—Pressure filter—Rapid-gravity filter. Is filtration continuous when bath being used? What is the turnover period? (Standard for indoor baths not more than four hours, for outdoor baths allow longer). What is the speed of filtration? (Standard 200 gals. per sq. ft. per hour). Any coagulant added? Nature and quantity. Any mechanical control of this added coagulant? Is water re-heated? (Standard temperature for baths, 72° F.). Is water aerated? How? At what stage?

(3) *Chlorination.*

(Standard to be attained not less than .2 and not more than .5 parts of free chlorine per million parts of water).

Is the bath water chlorinated? Is chlorination continuous? How is chlorination performed? Any estimation of chlorine content made by staff? (Standard three such readings per day). What test do they use? How often do they use it? Is a record kept? Is chloramine used?

(4) *Alkalinity.*

(Standard definitely alkaline to methyl orange, but free from caustic alkalinity).

Any measurement made of this? Any standard attempted?

(5) *Clarity.*

(Standard 19 S.W.G. platinum wire to be seen through a depth of six feet).

Any standard used? How often is water tested for clarity?

(6) *Cleansing bottom of bath.*

Method: How often used?

(7) *General.*

Is daily log kept of working of filters, etc., e.g. (a) Hours during which the plant is working; (b) Washing of each unit and the time taken; (c) Power consumed during each 24 hours for the filters only; (d) Weight of each chemical used including the liquid chlorine gas; (e) Amount of make-up water taken from the mains; (f) Notes on the alkalinity, clarity and chlorine content of the bath water; (g) Notes on any unusual condition observed in the water in the bath, and of any defects or difficulties experienced with the filter plant.

After considering this report, I have made some suggestions which are now receiving consideration by the appropriate committees of the Corporation.

III.—MATERNITY AND CHILD WELFARE.

Scheme—clinics—nursery schools—infantile mortality—diarrhoea and enteritis—maternal mortality—puerperal fever and puerperal pyrexia — ophthalmic neonatorum — midwifery and maternity services—ante-natal and post-natal work—institutional provision—clinics and treatment centres — orthopaedic treatment — dental treatment — diphtheria immunisation — artificial sunlight treatment — health visitors — infant life protection — notification of births — nursing homes registration — maintenance of destitute children—nursery nurses training scheme—unmarried mothers.

III.—MATERNITY AND CHILD WELFARE.

Maternity and child welfare scheme.

The Council has delegated its powers under the Maternity and Child Welfare Act to the Health Committee. This committee has appointed a Maternity and Child Welfare Committee (under the chairmanship of Alderman J. J. Milton, J.P.) which is responsible for the local services.

There has been no change in the local scheme which remains, as previously reported, one of partnership between municipal and voluntary enterprise. The Bristol Infant Welfare Association co-ordinates the work of the voluntary associations providing maternity and child welfare services with those organised and maintained by the local authority. The scheme approved under the Local Government Act, 1929, secures the payment of grants towards the expenses of these voluntary associations during the fixed grant period ending 31st March, 1937, amounting to £6,147 per annum, subject to such services being maintained efficiently to the satisfaction of the Council. The schedule of grants provided for the payment annually of £2,537 towards the expenses of four homes for mothers or babies ; £925 to two day nurseries £1,575 to the Bristol Infant Welfare Association, and £1,110 to 20 voluntary infant welfare centres. Changes in the scheme are contemplated which may affect the grant now approved under the schedule during the next fixed grant period.

The maternity committee has provided all the facilities set out in memorandum 156 M.C.W. with the exception of home helps, a scheme for which has not been adopted in this city.

Clinics.

Throughout the city maternity and child welfare clinics have been established as follows :—

Type of clinic.			Municipal	Voluntary
Ante-natal	...	...	10	—
Post-natal	...	...	1	—
Infant welfare	...	...	3	21
Mothercraft	...	...	1	—
Backward children	...	...	1	—
Artificial sunlight	...	...	1	—
Dental	...	...	1	—

Provision for the dental treatment of expectant and nursing mothers and children under five, recommended on medical grounds, is

carried out at school clinics (4), a joint school and pre-school-maternity clinic, and a pre-school-maternity clinic. Minor ailments, rickets, ear, nose, throat and eye diseases in children under five are referred to the school clinics (5), tuberculosis in any form to the tuberculosis clinic. Mothers requiring medical treatment are referred to private doctors or to voluntary institutions.

Changes in administration of municipal clinics have been affected. At Southmead Infant Welfare Clinic which is attached to the hospital, all the ante-natal work is conducted by an assistant maternity and child welfare medical officer. The post-natal work has been placed under the medical superintendent of the Southmead Hospital, who also acts as consultant for all ante-natal and post-natal work in the remaining municipal clinics.

Particulars regarding the accommodation provided at the new Portway joint clinic at Shirehampton, the central clinic now in course of erection at Marybush Lane, St. Philip's and the new district joint clinics in Fishponds and Bedminster will be found on page —.

Nursery schools.

Since July, 1934, the Education and Health Committees have been jointly considering the best and most efficient manner of providing due care and attention for children under school age whose circumstances make such provision desirable.

A nursery school is established at St. Werburgh's, Mina Road, where 150 babies are in attendance. This school meets a great need. There is also a nursery school at Rosemary Street under voluntary management which is doing good work. A scheme is also receiving the consideration of the Board of Education for the establishment of two well-equipped nursery classes at the Castle Council School which is situated in a poor neighbourhood. All infants have the opportunity of taking one-third of a pint of milk each day at a cost of a half-penny and in necessitous cases milk is granted free. Free dinners are also provided for necessitous children. An innovation is being made in connection with the new school building scheme at Ilminster Avenue, Knowle, where accommodation for these children is to be provided upon the school site by the erection of a nursery centre, such provision forming part of the public health service and being under the control and supervision of the Health Committee as part of its maternity and child welfare work. The experiment will be carefully watched by the Co-ordination of Medical Services Committee with a view to developments upon similar lines in other parts of the city if the experiment proves successful.

Detailed plans of the proposed nursery centre provide accommodation for 100 children between the ages of two and five years. The staff will comprise a superintendent and four probationer assistants. The centre will be heated from the boilers used for heating the Ilminster Avenue Infants' School and the heating and cleaning will be carried out in conjunction with the school. The total capital cost of scheme is £5,284.

Other services

The services of *consultants* in cases of difficult labour and puerperal fever are at the disposal of any doctor when required, and an

arrangement has been made with the Bristol General Hospital for the admission of cases of complicated labour, if necessary.

Arrangements have been made for the *pathological examination* in the department of preventive medicine of material submitted by doctors.

There is adequate provision for patients needing *institutional treatment* on medical grounds, and also on account of unsatisfactory home conditions. The maternity department at the Southmead municipal hospital has been considerably developed in recent years.

In addition to the work of midwives in private practice, confinements are taken by the extern staffs attached to the Bristol Royal Infirmary, Bristol General Hospital and Southmead Hospital. This gives an adequate supply of district midwives.

Sterilised *maternity outfits* are supplied to patients at cost price, and milk is supplied to necessitous expectant and nursing mothers on the recommendation of the medical officer of a clinic or infant welfare centre.

Statistics.

Observations on the statistics relating to live births and stillbirths will be found in the section of this report dealing with vital statistics.

Once more, the rates which definitely bear on maternity and child welfare are generally satisfactory. They are in most cases better than last year and, as usual, constitute in varying degrees improvement on the rates recorded nationally and by comparable large towns (see page 18). Compared with the previous years's figures—

Rate per 1,000 live births.

Deaths under one year fell by 2·7.

„ „ „ month „ „ 5.

Rate per 1,000 births, including stillbirths.

Stillbirths fell by 1

Deaths of mothers (all causes) fell by 1·68

„ „ (puerperal sepsis) fell by 50

Infant mortality.

Rate per 1,000 live births.

	Bristol	England and Wales	Combined County Boroughs
1935	43	57	62
1934	46	59	63

During the year the deaths of 247 Bristol infants under one year were recorded, 15 less than the net deaths registered in 1934. The deaths consisted of 150 males and 97 females, of whom 11 males and 5 females were born illegitimate. This number gives an *infant mortality rate* of 43·2 per 1,000 live births, a fresh low record for

1935.

INFANT MORTALITY.

Deaths from stated causes under ONE year.

Total 1934	CAUSE OF DEATH	Under 1 Day	Under 1 Week	1-2 Weeks	2-3 Weeks	3-4 Weeks	Total under one month	1-2 Months	2-3 Months	3-4 Months	4-5 Months	5-6 Months	6-7 Months	7-8 Months	8-9 Months	9-10 Months	10-11 Months	11-12 Months	Total 1935	Deaths in Quarters			
																				1st	2nd	3rd	4th
...	Small-pox ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	Chicken-pox ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1	Measles ...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	1	...	...	...
...	Scarlet fever ...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	1	...
11	Whooping cough ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	Diphtheria and croup ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5	Erysipelas ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	Tuberculous meningitis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	Abdominal tuberculosis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	Other tuberculous diseases ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10	Meningitis (not tuberculous) ...	...	...	1	...	1	2	...	...	1	...	1	1	...	...	...	1	...	6	1	3	1	1
9	Convulsions ...	...	1	...	...	...	1	...	2	...	1	...	1	...	...	...	...	...	5	5	...	...	...
...	Laryngitis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	Bronchitis ...	...	...	...	1	...	1	1	...	...	...	...	...	...	...	...	2	...	4	2	1	1	...
32	Pneumonia (all forms) ...	...	...	2	...	1	3	2	2	3	...	3	6	1	1	1	2	2	26	7	6	4	9
2	Influenza ...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...
1	Diarrhoea ...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	2	1	...	1	...
13	Enteritis ...	...	...	...	...	...	...	4	1	2	1	...	4	...	1	1	1	1	16	4	2	3	7
2	Gastritis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5	Syphilis ...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	2	1	...	1	...
1	Rickets ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	Found dead ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	Suffocation, overlaying ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6	Injury at birth ...	3	4	3	...	1	11	...	1	...	...	...	...	...	...	...	...	...	12	4	5	3	...
18	Atelectasis ...	15	14	...	...	...	29	1	...	...	...	...	...	...	...	...	...	...	30	11	7	5	7
35	Congenital malformations ...	5	6	5	4	2	22	5	3	1	1	...	1	1	...	...	1	...	35	11	7	11	6
73	Premature birth ...	33	28	7	...	2	70	...	...	...	...	...	...	...	...	...	...	...	70	16	23	13	18
23	Atrophy, debility & marasmus ...	...	...	2	4	1	7	5	2	...	1	...	...	...	2	...	...	...	17	4	7	3	3
11	Other causes ...	1	4	3	1	...	9	1	...	1	1	...	...	4	1	2	...	...	19	6	7	3	3
262	Totals ...	57	57	24	10	8	156	21	11	9	5	5	13	7	6	4	7	3	247	74	68	51	54

MATERNAL MORTALITY.

Total 1934	Cause of death	Total 1935	Age groups			Deaths in institu- tions	Deaths in districts						
			15 and under 25	25 and under 45	45 and under 65		Ashley	South	Central	Clifton	St. George	Stapleton	Westbury- on-Trym
3	Puerperal sepsis ...	3	...	3	...	3	...	...	...	...	...	...	...
4	Septic abortion ...	2	...	2	...	2	...	...	...	...	...	...	...
...	Other puerperal causes ...	...	...	...	...	...	...	...	...	...	...	...	...
2	Placenta praevia ...	2	...	2	...	1	...	1	...	...	...	...	...
...	Post-partum haemorrhage ...	...	...	...	...	...	...	...	...	...	...	...	...
3	Obstetric shock ...	3	1	2	...	3	...	...	...	...	...	...	...
...	Do. caesarean section ...	...	...	...	...	...	...	...	...	...	...	...	...
...	Ruptured uterus ...	...	...	...	...	...	...	...	...	...	...	...	...
4	Embolism ...	1	...	1	...	...	...	1	...	...	...	...	...
...	Ruptured ectopic gestation ...	...	...	...	...	...	...	...	...	...	...	...	...
1	Intestinal obstruction ...	...	...	...	...	...	...	...	...	...	...	...	...
7	Puerperal toxæmia ...	4	...	4	...	4	...	...	...	...	...	...	...
25	Total ...	15	1	14	...	13	...	2	...	...	...	...	...

RATES.

Infant Mortality	Males	Females	Total	Rate per 1,000 births.
Legitimate ...	139	92	231	41·8
Illegitimate	11	5	16	86·0
Total	150	97	247	43·2
Maternal Mortality.			No.	Rate per 1,000 total births
Puerperal sepsis ...	...	5		·84
Other puerperal causes	...	10		1·67
Total ...	...	15		2·51

Bristol, being 2·7 below last year's record and 18 per 1,000 below that for the quinquennium 1926/1931 (61). The rate is now only about one third of that recorded 20/25 years ago. A comparison of the causes of infant mortality then with those in 1935 is not without considerable interest.—

Cause of death						Average 1916/20	1935
{	Smallpox	...	...	...	...	—	—
	Chicken pox	...	...	...	...	—	—
	Measles	...	...	...	...	15·2	1
	Scarlet fever	...	...	...	...	—	1
	Whooping cough	...	...	...	...	14·8	—
{	Diphtheria	...	...	...	...	2·2	—
	Erysipelas	...	...	...	...	·8	—
{	Tuberculous meningitis	...	...	...	...	6·4	—
	Abdominal tuberculosis	...	...	...	...	3·6	—
	Other tuberculous disease	...	...	...	...	4·8	—
	Meningitis (not tuberculous)	...	...	...	...	7·2	6
	Convulsions	...	...	...	...	30·8	5
	Laryngitis	...	...	...	...	·4	—
	Bronchitis	...	...	...	...	42·0	4
	Pneumonia (all forms)	...	...	...	...	80·0	26
	Influenza	...	...	...	...	—	1
{	Diarrhoea	...	...	...	...	22·6	2
	Enteritis	...	...	...	...	46·6	16
	Gastritis	...	...	...	...	5·4	—
	Syphilis	...	...	...	...	18·6	2
	Rickets	...	...	...	...	1·8	—
	Suffocation overlying	...	...	...	...	4·2	—
	Injury at birth	...	...	...	...	1·4	12
	Atelectasis	...	...	...	...	9·8	30
{	Congenital malformations	...	...	...	...	35·4	35
	Premature birth	...	...	...	...	127·8	70
	Atrophy, debility and marasmus	...	...	...	...	101·4	17
	Other causes	...	...	...	...	53·4	19

The value of consistent propagation during the present century of the principles of hygienic child-rearing, the establishment of clinics where the mother and child may secure expert supervision, better housing conditions and other social developments may be estimated by a study of this table.

The local rate is a considerable improvement on the infant mortality rates recorded for England and Wales (57) and for the combined county boroughs (62), both of which are fresh low records.

The principal causes of infant death in order of numerical importance were prematurity (70), congenital malformations (35), respiratory diseases (31), atelectasis (30), diarrhoea and enteritis (18) atrophy, debility and marasmus (17) and injury at birth (12). The order shows little variation. The group of diseases covered by such causes as prematurity, malformations and marasmus accounted for 49·4 per cent. of the total infant deaths followed by respiratory diseases, 12·6 per cent, atelectasis, 12·1 per cent., diarrhoea and enteritis 7·3 per cent., and injury at birth (4·9). There were only two deaths due to infectious diseases and none from tuberculosis.

Two causes—injury at birth (12) and atelectasis (30)—show considerable increase over last year's figures and have materially affected the infantile mortality rate.

As in previous years, considerably more than one half (63 per cent.) of the deaths of infants occurred under one month—a *neo-natal mortality rate* of 27·2 per 1,000 births compared with 27·7 last year. Of these deaths, in the first month 37 per cent. occurred on the first day of life and a similar percentage during the next six days. Approximately 89 per cent. of the neo-natal deaths were due to prematurity, accident or congenital defects. All the prematurely born infants died in the first month.

Illegitimate live births numbered 186 and of these 16, or 8·6 per cent. died before reaching the age of one year, compared with 9·6 per cent. last year. These deaths represent an *illegitimate infant mortality rate* of 86·0, a decrease of 9·7 per 1,000 live births over the rate in 1934. The legitimate rate per 1,000 legitimate births was 41·8, less than half the illegitimate rate.

Diarrhoea and enteritis (under two years).

Rate per 1,000 live births.

	Bristol	England and Wales	Combined County Boroughs
1935	3·15	5·7	7·9
1934	2·98	5·5	7·4

This disease, which formerly occupied a high position amongst causes of infant mortality was responsible in 1935 for 18 deaths of children under two years of age, one more than the previous year. The figure gives a *diarrhoeal mortality rate* per 1,000 live births of 3·15, which is only slightly more than half the corresponding rate for England and Wales and much below the combined county borough rate.

Maternal mortality.

		<i>Rate per 1,000 births</i>		<i>Rate per 1,000 total births</i>	
		Puerperal sepsis	All maternal causes	Puerperal sepsis	All maternal causes
Bristol	... ..	·87	2·62	·84	2·51
England & Wales		1·68	4·10	1·61	3·93

During the year 15 mothers lost their lives from causes directly connected with childbirth, 10 less than in 1934. This figure gives a *maternal mortality rate* of 2·51 per 1,000 total births (i.e., live and still) a reduction of 1·68, and the lowest rate since 1928. One third of the deaths were due to puerperal sepsis. As will be seen from the table above, the rates are very much below the national maternal mortality rate. The medical officers of the maternity and child

welfare section continued their investigations into these maternal deaths. Each case was specially inquired into and detailed reports forwarded to the Ministry of Health. The actual causes of all the deaths are shown in the table on p. 51 with age groups and the number which occurred in institutions.

Notification of puerperal fever and puerperal pyrexia.

Puerperal Fever	<i>Rate per 1,000 total births</i>	Puerperal Pyrexia
1·67	Bristol	6·20
3·60	England and Wales	9·44
4·55	Combined County Boroughs ...	11·14

Ten cases of puerperal fever and 37 of puerperal pyrexia were notified during the year compared with 46 last year. These figures give attack rates of 1·67 and 6·20 per 1,000 total births respectively. These rates are much lower than the corresponding rates for England and Wales and the combined county boroughs. There were five deaths from puerperal sepsis as against eight last year. 26 of the puerperal cases developed in hospital and 9 were removed there after confinement at home. All were isolated cases, there being no instance of one case having any connection with another in a nursing home or institution.

Notifications of ophthalmia neonatorum.

	Number	Rate per 1,000 live births.
1935	25	4·4
1934	35	5·8

The number of cases reported fell by over 28 per cent. and the attack rate of 4·4 per 1,000 live births is 1·4 less than in 1934. All cases recovered without impairment of vision or injury to eye whatsoever except one case which died in hospital from another disease. Three other cases received hospital treatment. This is a tribute to the effective home supervision of such cases by the health visitors, who also dealt in a similar manner with 302 less serious eye cases.

Maternity and Child Welfare Services.

Report by Marguerite G. Hughes, M.B., Ch.B.,
Assistant Medical Officer of Health.

1934	STATISTICS	1935
144	Midwives giving notice of practice	133
1	Bone-fide midwives registered	1
49	Midwives in private practice	50
94	Midwives attached to institutions	83
1,016	C.M.B. Forms A—medical help	1,042
14	B—death	17
69	C—stillbirth	68
11	D—laying out the dead	7
42	E—liability of infection... ..	34
64	F—artificial feeding	47
10	Midwives' claims for compensation	19
265	Fees claimed by medical practitioners	269
123	Maternity beds available	134
	NOTIFICATIONS—	
5,982	Live births	6,112
266	Stillbirths	288
46.1	Percentage of confinements in institutions	51.1
12.3	" " attended by doctors	16.9
41.6	" " " midwives	32.0
5	Puerperal fever notifications	10
46	Puerperal pyrexia do.	37
35	Ophthalmia neonatorum notifications	25
	FORMS OF CONFINEMENT ASSISTANCE GRANTED—	
936	Maternity beds	1,037
143	Midwife's fee	138
104	Southmead Hospital district nurse	85
12	Consultant obstetrician	12
2,990	Milk grants	3,264
15,224	Attendances at municipal ante-natal clinics	16,135
2,947	New patients	2,945
23.3	Average per session	24.1
59,412	Attendances at infant welfare centres	69,176
23,848	Children under one year	33,976
35,564	Children between one and five years	35,200
4,408	Attendances at artificial sunlight clinic	5,543
4,415	" mothercraft clinic	4,648
530	" minor ailment clinics	504
2,846	" dental clinics	3,320
137,109	Home visits by health visitors	129,867
	<i>Infant life protection.</i>	
261	Children under supervision	291
205	Persons registered as receiving children... ..	226
—	Registrations refused or withdrawn	—
6	Children removed from register or reaching age limit	10
33	Children transferred to relatives... ..	26
19	Children legally adopted	11
1,202	Total visits	1,184
	<i>Nursing Home Registration Act, 1927.</i>	
4	Homes registered	2
33	Total on register	34
8	Homes exempted from registration	8
2	Registrations refused or cancelled	1

Midwifery and maternity services.

The midwifery and maternity services in Bristol remain very much the same as in the previous year. The number of practising midwives decreased by 11 to a total of 133, of whom 83 were attached to institutions. With one exception, the whole of the midwives in practice are certificated, there now being only one bona-fide midwife working. The number of district midwives in Bristol is considered to be sufficient. As in previous years each midwife was visited at her house at least four times, when the usual inspection of register, bags, etc. was carried out. It is to be noted that the midwives continue to take full advantage of the arrangements for sending for medical help at confinement.

The causes for sending for medical help are indicated below :—

1934	CONDITION	1935
5	Threatened abortion	12
8	Abortion	5
18	Albuminuria	12
12	Prematurity	19
32	Ante-partum haemorrhage	32
120	Delayed labour	111
46	Complicated labour	30
300	Ruptured perineum	344
7	Adherent placenta	10
19	Post-partum haemorrhage	16
35	Raised temperature	34
41	Feebleness of child	20
212	Discharging eyes... ..	181
3	Rash	10
158	Other causes	206
1,016	Total	1,042

The claims from medical practitioners for attendance at confinement are practically the same as in 1934. Nineteen claims for compensation were met for loss of cases referred to an institution on account of some abnormality.

There was again a large increase in the number of applications for admission to maternity hospitals for confinement, and of these applications no less than 998 were for admission to Southmead Hospital, of whom 838 were actually admitted during the year. The number of confinements in institutions has increased from 2,883 in 1934 to 3,271 in 1935, the percentage of births in institutions being 51.1. of total births during the year.

Twelve cases of complicated labour, puerperal fever and pyrexia were referred to consultants under the scheme for medical assistance. This was the same number as in the previous year.

Ante-natal and post-natal work.

There has been no increase in the number of ante-natal and post-natal clinics during the year, but it will be noted that there was a larger number of patients attending these clinics as compared with the previous year. There has been a slight decrease in the number of applications towards payment of midwives' fees at confinement. Other applications for assistance include the selling of sterilised

maternity outfits at cost price, and loaning of maternity bags in necessitous cases. During the year 3,264 milk grants have been made, to expectant mothers, 446, nursing mothers, 1,068, children under three years, 1,664, and children between 3 and 5 years, 86, at a total cost of £1,508 14s. 5d.

Institutional provision for mothers or children.

In a large centre like Bristol, it is difficult to indicate exactly the institutional provision allocated for mothers or children. Many cases from outside the city are treated here. It may, however, be accepted as adequate. Approximately 240 beds are available for maternity and women's diseases, 44 provided by the local authority at Southmead Hospital, and 196 in voluntary hospitals or private agencies, including maternity and nursing homes. For children approximately 650 beds are provided for general, medical and surgical cases, tubercular diseases and for infectious diseases.

Other forms of institutional provision exists for the benefit of women, including unmarried mothers such as the Salvation Army Home and Grove House Home, where girls are taken pending, during and after confinement, and at the Diocesan Refuge and Elm House pending and after confinement.

Provision for parentless and disabled children is made in the two homes for waifs and strays where there is accommodation for 55 children in addition to the municipal Babies' Home at Downend, where there is accommodation for 60 children under 5 years of age.

Clinics and treatment centres.

The total number of infant clinics and treatment centres remains as in the previous year. The new municipal centre at Portway was opened in November, and the Shirehampton voluntary infant clinic was transferred to the new centre. The number of attendances at this centre are steadily increasing, and it has been found necessary to arrange a second infant welfare session. The total number of attendances at all clinics has also increased, and particularly of children under one year. The attendances at the artificial sunlight and at the mothercraft (infant feeding) clinic show a slight increase, and the number of minor ailments referred to the Education Committee for treatment at the school clinics remains about the same.

Orthopaedic treatment.

The municipal scheme for orthopaedic treatment includes the examination of children by specialists—at clinics provided by the school medical service. Artificial sunlight treatment and institutional treatment when necessary at Southmead and Frenchay Park Hospitals. In addition, orthopaedic treatment is carried out at the voluntary institutions.

The number of children under five years of age referred to the school clinics for crippling defects (rickets, etc.) amounted to 68 and of these six have been admitted to hospital for treatment.

Dental treatment.

Dental treatment for expectant and nursing mothers and children up to the age of five years continues to be carried out at the school

clinics and at Southmead Hospital, The cost of this service (including £420 11s. 7d. for dentures) amounted to £806 16s. 7d.

The second full-time dentist sanctioned by the Committee commenced his duties in November, most of the work being carried out at 7, Brunswick Square.

Diphtheria immunisation.

During the year, 274 children were immunised against diphtheria at the outlying infant welfare centres.

Artificial sunlight treatment.

Facilities for this treatment are provided through both the Health and the Education Committees. At Southmead Hospital there are lamps available for treatment of the tuberculous, and at Brunswick Square six sessions are held weekly for cases ascertained in the maternity and child welfare work of the city. At the Castle Green nursery class, children requiring it are treated by the sunlight installation of the Education Committee.

During 1935, the maternity and child welfare department at Brunswick Square treated 544 cases who, in all, made 5,543 individual attendances. A course of treatment as given at Brunswick Square embraces 12 doses, two exposures weekly. The exposure given to the rays is graduated from $1\frac{1}{2}$ minutes to a maximum, as a rule, of 10 minutes. Many cases require such a course to be repeated, but the interval between any two courses is never less than one month.

The type of cases treated have been—

- (1) Rickets.
- (2) General debility, for example, debility after measles.
- (3) Anaemia.
- (4) Bronchitis.
- (5) Enlarged glands of the neck and mediastinum of non-tuberculous origin.
- (6) Some skin conditions, particularly impetigo.

The treatment, generally, has been definitely beneficial. The children's colour has become healthier, the muscles more firm, the appetite has improved, and there has been a gain in weight. The mothers have been satisfied that the children have slept better, and have become less nervy. Colds have been cured, or the children have become less susceptible to colds. At the Castle Green nursery class more detailed personal observation is possible, and it has been found that the children gain much in vitality, they become brighter mentally, they are happier, and much less difficult to manage.

In particular, it has been found that the cases of general debility do well. A striking observation has been the benefit in patients suffering from inflammatory conditions of the eyes. The cases of anaemia generally do well, as do some cases of chronic bronchitis, more especially if the bronchitis be associated with rickets. Glandular conditions have also given good results, and cases of impetigo have

been cleared up almost immediately, even after some months of unsuccessful treatment by other methods.

There had been cases not showing all the good results above referred to—certain children having shown a loss of weight, others some increased irritability or nervousness. This had seemed to be due to over-stimulation, and our experience has been that such poor results may be avoided in certain cases by a careful supervision and a considerable shortening of the length of exposure.

Much work has been done in the last few years in the study of nutrition and diet, and in the appropriate balance between the various food substances necessary for normal health and growth. It would seem, from our observations, that the adjunct artificial sunlight treatment may help the child to use properly the various constituents of its diet. This would explain our success with the child suffering from rickets for example, the treatment enabling the patient to assimilate correctly the calcium and phosphorus available in its diet. We have noted that a child with all the dietary benefits of a good home but who may not have been progressing normally, will have its assimilation so improved by sunlight treatment that it immediately begins to pick up and develop at a normal rate. Again, at the Castle Green nursery class, some improvement used to be noticed after the administration of cod liver oil and iron preparations, but the full benefit of such medicinal treatment was not revealed in the children until they had also been given artificial sunlight treatment.

At one time it was thought that breast-fed babies did not develop rickets. Further medical observation, of course, has proved this to be incorrect, the breast-fed child developing rickets no doubt because of the unsatisfactory diet and general condition of the mother. Again here, artificial sunlight seems to provide something setting the balance aright, helping the improper nutrition, and abolishing the symptoms of rickets.

Severe cases of rickets are now comparatively rare in Bristol, the mild cases, however, remain fairly common.

Since May 1934, all orthopaedic cases ascertained through the maternity and child welfare service, at welfare centres, clinics, or health visitor visitation, have been referred immediately to the orthopaedic surgeon for his examination. Last year, 68 cases were so referred. Of these, six have been admitted to hospital for operative and other treatments, while others have been referred for further continued observation under the maternity and child welfare department. These have been mainly cases of rickets not requiring surgical treatment. We have been administering sunlight treatment to such cases at a special session at the clinic, and they are seen again by the orthopaedic surgeon in three or six months time, as is appropriate. This has proved a satisfactory method of observing and following-up these cases.

Health visitors.

The number of health visitors remains the same (24). The total number of visits paid by them was 127,867.

Six students entered for the training course, and with one exception they were successful in passing the examination for the diploma of the Royal Sanitary Institute.

Infant life protection.

The visiting of infants and young children under 9 years of age who are nursed or looked after for reward, is carried out by the inspector of midwives and nursing homes (Miss Richards). There has been a slight increase in the number of children in the care of foster-parents, the number under supervision at the end of the year being 206.

Notification of Births Act, 1915.

There was an increase of 152 in the number of births notified, the total being 6,400 including 288 stillbirths. The sex of the cases was : males, 3,182 living, 162 dead ; females, 2,930 living, 126 dead. Nearly one half of these confinements (51·1 per cent.) took place in institutions while only 16·9 per cent. were attended by doctors and 32·0 per cent. by midwives.

Nursing Homes Registration Act, 1927.

The number of registered homes in the area now totals 34. The arrangements for inspection remains as in previous years, namely, that they are visited at regular intervals by the inspector of nursing homes. It has not been necessary to withdraw the registration of any home during the year.

Maintenance of destitute children.

Arrangements for the reception and maintenance of infants under five years of age remain as reported last year.

The number of children under supervision in the Babies' Home on 31st December, 1935, was 25 under three years of age and 25 between three and five years of age, including three children temporarily in Ham Green or Southmead Hospital. The number of children admitted during 1935 through the Public Assistance Committee on account of destitution and desertion, etc., was 28, and the number for dietetic and other health reasons, 22. These latter cases are usually brought to the notice of the department by the health visitors and infant welfare centres, but application for accommodation would be considered arising from any source whatsoever.

The accommodation at the Downend Babies' Homes provided 35 beds for children under three years and 25 beds for children between three and five years. The medical supervision of all children in the Downend Homes, including those over five years continues to be carried out by the medical officers of the maternity and child welfare service.

Nursery nurses training scheme.

The scheme for the training of girls as nursery nurses has just been brought into operation, and at the present time there are six probationers undergoing training.

This scheme provides for the training of at least 12 girls not under 16 years of age to qualify as nursery nurses, and to enter for the examination of the National Society of Day Nurseries. The course which is of two years duration is under the supervision of the chief assistant medical officer of the maternity and child welfare department, and will be carried out by herself, her two medical assistants, the matron and a deputy in charge of the home, and the cookery assistant who it is proposed shall have had domestic science training. Probationers are required to pay a premium of £25, and for the second year will receive a salary of £12. In addition to assisting with the children and attending the necessary lectures, they will be required to help with the housework, laundry and mending. It is hoped that in addition to the ordinary nursery training in the home, it may eventually be possible for the probationers to attend infant welfare centres, the special breast-feeding clinic and nursery schools and classes, and may also be given an opportunity of going in for general training at Southmead municipal general hospital.

Unmarried mothers.

1934	CASES ASSISTED	1935
127	Applications received	130
17	Remaining over from last year	17
68	Admitted to Southmead Hospital	68
22	Confined at mother and baby homes	23
31	Other assistance given in confinement or not needed	28
1	Transferred to another area ... ..	...
5	Applications withdrawn	4
17	Arrangements not completed	21

The welfare work in connection with unmarried mothers is carried out in Bristol by Mrs. N. H. Stott, the welfare officer to the Public Assistance Committee and the Health Committee, who reports as follows :—

“ During the year 130 *applications from unmarried mothers* or in respect of an illegitimate child were received.

108 were in respect of 1st child ; 11 (2nd) ; 6 (3rd) ; 1 (4th) ; 2 (5th). (Both these mothers have been known for some years as thoroughly unsatisfactory and are now inmates of the institution). One applicant was the mother of three illegitimate children and wished to obtain affiliation orders when she was deserted by the man with whom she had lived for a number of years. One was the mother of five illegitimate children and had lived in similar circumstances.

It has been noticed that a number of applicants were very young, 33 being under 21 years of age and that, similarly, a number were much older than in previous years, 21 being over 30 years of age.

In addition to these 130 new cases in 1935, arrangements had to be made for 17 who made application in 1934 and who were awaiting confinement, making a total of 147.

The results were as follows :—

- 66 confined at Southmead Hospital.
- 2 admitted to Southmead Hospital immediately after birth of child.
- 2 abortions.
- 23 confined at mother and baby homes.
- 2 confined at mother and baby homes (special arrangements out of Bristol).
- 1 married before birth of child at Southmead Hospital.
- 1 confined at Fishponds Mental Hospital.
- 1 confined at Guardian House.
- 22 assistance in confinement not sought.
- 2 assistance in confinement not sought (transferred from other institutions).
- 4 applications withdrawn (two as arrangements to marry were made).
- 21 child not yet born.

In spite of a growing dislike amongst girls to accept help which involves submission to routine and any loss of personal freedom, during the year 72 girls have been admitted to homes for varying periods and reasons.

- 17 were admitted to the Diocesan Refuge, or Elm House Temporary Home, before admission elsewhere for confinement, or for temporary shelter, as when waiting for or seeking a situation.
- 29 were admitted to mother and baby homes.
- 3 " " " " " " out of Bristol.
- 7 " " " " " " hostel at the Diocesan Refuge.
- 5 mothers and babies to Elm House temporarily.
- 11 to other homes (preventive and rescue, including three for special treatment).

The following is an analysis of the *affiliation work* for the year in regard to 204 cases, including 51 cases incomplete on 31st December, 1934 brought forward, 130 new cases and 23 Salvation Army private cases :—

- 38 affiliation orders.
- 36 agreements.
- 1 not entitled to summons (married woman).
- 6 married to putative father.
- 13 abortion, still-birth or child died.
- 24 no corroboration.
- 2 putative father not known.
- 4 putative father not traced.
- 3 returned to live with putative father.
- 7 removed from area.
- 2 child adopted.
- 3 applications withdrawn.
- 65 incomplete.

The amount of affiliation orders in many cases has been markedly low. Nine orders were for sums under 5/- weekly and 18 for only 5/- weekly. In many cases great difficulty has been experienced in obtaining payments on orders. This adds considerably to the work and, in this direction, it promises to increase due to recent legislation relating to debtors. On the whole, payments made voluntarily under agreements are more regularly made, but constant care is needed to see that these do not fall into arrear.

In approximately 200 cases, money is received for distribution to mothers and foster-mothers. This part of the work is bound to increase with time, as it remains necessary in the majority of cases to give this assistance, not only to see that proper payments are made, but also to enable mothers to receive their money without involving expense and time in collecting it. Indeed, in many cases, a girl's employment would be in jeopardy if she had to go to court to fetch her own money. It is also a valuable means of keeping in touch with many who still need a helping hand.

During the year £4,781 17s. 2d. has been received and dealt with as follows :—

- £143 14 2 to the city treasurer in respect of maintenance of babies born at Southmead Hospital or mother and baby homes.
- £1,453 2 10 to the collecting officer, Public Assistance Committee, being money paid at court or privately, under separation or maintenance orders, affiliations orders and agreements for people receiving help in various ways from the Public Assistance Committee.
- £3,185 0 2 to mothers and foster-mothers of illegitimate children, being money received through court on affiliation orders, etc.

Payments to the city treasurer are less than last year. This is, in a great measure, due to the small orders which have been granted at court and also to the fact that frequently orders have not been granted from birth, but from the date of obtaining the order, which has resulted in forfeiture of payment towards the period in hospital or home.

The work with married women's cases continues.

- 22 maintenance of separation orders were obtained.
- 7 increase in the amount of an existing order was obtained.
- 2 private agreements were arranged.
- 2 cases the parties were reconciled.
- 3 applications were dismissed at court.

12 babies have been placed in homes where the mothers' payments vary from 2/- to 7/6 weekly, according to ability to pay. This is of great value in those cases where there is no affiliation order and the mother is unable to earn sufficient to wholly support the child. Three mothers have received weekly grants to assist them."

IV.—SANITARY CIRCUMSTANCES AND HOUSING.

A.—Sanitary circumstances.

Water—drainage and sewerage—rivers and streams—closet accommodation—refuse collection and disposal—report of the chief sanitary inspector—common lodging houses—tents, vans and sheds—offensive trades—factories, workshops and workplaces—underground bakehouses—Rag Flock Acts—smoke abatement—cleansing and disinfection—cemeteries—animal or insect pests.

B.—Housing.

Clearance orders—repair procedure—overcrowding survey report.

A.—SANITARY CIRCUMSTANCES.

1934	SUMMARY	1935
12 miles 4,076,193,000 97,070	Length of new water mains laid Gallons supplied to district ... Dwelling houses connected to mains	18 $\frac{3}{4}$ miles 4,745,224,000 99,800
18·83 galls	Average supply for domestic purposes per head	22·10 galls
36	Notices served to secure proper water supply	31
3	Polluted wells closed	4
18	Water analyses	9
3 $\frac{1}{2}$ miles 132,475 tons 18,018 3,787,000	Length of new sewers laid ... House and trade refuse collected Dustbins on hire Street watering (gallons) ...	2 miles 138,040 tons 18,246 2,583,000

Water.

Details of the sources of the water supply of the Bristol Water Works Company were given in my report for 1930 and there has been no important extension during the year. I am indebted to the general manager of the Company (W. A. D. Alexander, Esq.), for the following statement on the position :—

“ The 1935 rainfall in Bristol measured at Telephone Avenue exceeded the average figure by 6·74 inches. A full and unrestricted supply to the district was maintained throughout the year. Frequent chemical and bacteriological analyses of the supply to the district made by the Company's analyst showed that the usual high standard of purity was maintained. The construction of the new reservoir at Cheddar, which will hold 1,200,000,000 gallons, is proceeding satisfactorily and it is expected that the reservoir will be brought into use in 1937. At the end of the year the Company's reservoirs were full or over-flowing, and there is no anxiety as to the sufficiency of the supply in 1936.”

Periodical chemical and bacteriological analysis of the supply made by the city analyst show that a high standard of purity is maintained.

Drainage and sewerage.

In July 1934 the Council directed the Planning and Public Works Committee :

- (1) to investigate the existing main drainage system of the city with a view to the removal of the sewerage from the river Avon.
- (2) to consider the possibilities of an up-to-date scheme for the drainage of the city being put into immediate operation and to report at an early date.

In November 1934 a report was submitted which recommended that it would be wise and reasonable before embarking on any expensive scheme for disposing of the crude sewage to be quite sure that it is not possible to continue the use of the river Avon as the means of carrying the Bristol sewage to the tidal waters of the Severn. The Council approved proposals to enable the city engineer to make a complete survey within a period of three years of the existing main drainage system with the city ; to prepare proposals to put this system in order and to design future main sewers which will be needed as further development takes place. Such a survey would enable all drainage work carried out in and around the city to be co-ordinated into one complete system and is considered absolutely necessary whatever decision may be ultimately reached as the result of the experiment now in hand to deal with the sewage outflow.

The experiment to obviate the effects of offensive matter entering the river Avon by the chlorination of sewage at seven points in the main sewers commenced in September 1934, is being continued, and was extended during 1935 to all outfalls of the main sewers.

With the exception of general maintenance and relaying of existing sewers, the only important drainage work carried out was the construction of a new main sewer for the drainage of the Brislington area, which work is still in progress. This was necessitated by the extension of the city boundaries, and increasing development in this area.

Rivers and streams.

No special action in regard to river pollution was found necessary during the year except as referred to in the foregoing paragraph. River water was analysed on 176 occasions from six selected points and the results of the analyses are included in the report of the public analyst in section ix.

Closet accommodation.

By steady and persistent action the number of closets without flushing appliances remaining in the city continue to be reduced by an increasing rate annually. Flushing appliances were introduced in respect of 1,034 such closets during 1935.

Refuse collection and disposal.

No alteration to the system of this work was made in 1935. The substitutions of mechanical for horse-transport was increased, which method continues to give satisfactory results.

SANITARY INSPECTION.

Report by J. A. Robinson, F.S.I.A., Chief Sanitary Inspector.

	Visits	Notices served*		Notices complied with*	
		Verbal	Informal written	Verbal	Informal written
Dwelling houses	37,338	331	1,006	300	809
Houses let in lodgings ...	606	11	26	12	14
Common lodging houses ...	80	—	—	—	—
Tents, vans and sheds ...	278	—	3	—	3
Prep. or sale of food premises ...	720	53	24	53	22
Offensive trades : including fried fish shops, rag and bone dealers	606	16	2	12	—
Factories, workshops, and work- places	1,052	—	76	—	73
Entertainment places ...	219	4	7	4	3
Shops Act	49	1	14	1	12
All other matters	2,240	42	53	33	46
FORMAL NOTICES AND ORDERS SERVED :					
For abatement of nuisances, etc.				149 notices	
For repair of private party drains serving 209 properties ...				28 drains	
For paving private passages serving 259 properties ...				7 passages	
1934					1935
DRAINAGE WORK :—					
609 New drains laid					465
1,478 Drain tests made					1,364
931 Drains repaired					862
WATER CLOSETS :—					
1,161 Flushing appliances introduced					1,034
1,133 New pans fitted					833
436 Other repairs and cleansing					487
15 Cesspools abolished					7
WORK ON DWELLING PLACES :—					
873 Roofs repaired					1,112
7,933 Other new and repair work					13,111
991 Premises cleansed					1,292
604 Houses treated for dampness					787
638 Improvement of lighting and ventilation					992
823 New scullery sinks fixed					806
173 Washing conveniences installed in houses					232
415 Conveniences <i>re</i> storage, preparation or cooking of food installed					541
105 Bathroom and geyser ventilation					95
41 Cases of overcrowding abated					63
6 Underground rooms closed					9
1,271 Abatement of other nuisances					1,104
SHOPS ACT, 1934 :—					
— Provision of suitable and sufficient ventilation					6
— " " " water supply					1
— " " " washing facilities					8
— " " " sanitary accommodation					15
— New sinks provided					3
— Other new and repair work					27
11 ANIMALS IMPROPERLY KEPT :—					9
7 Manure receptacles provided					10
8 AGED AND INFIRM PERSONS—removed to satisfactory premises					4
SMOKE :—					
70 Observations					64
11 Infringements of byelaws					7
PUBLIC HEALTH ACTS :—					
4,145 Dwelling-houses inspected for housing defects under P.H. Acts					3,879
13,407 Inspections of such houses made					10,457

* Excluding notices under Housing Acts.

The foregoing table summaries the work accomplished by the district sanitary inspectors during the year under review. 2,996 complaints were received and altogether 43,139 visits were made by the staff for all purposes resulting in the service of 1,634 notices of an informal character in respect of Public Health Act nuisances. In addition, 444 formal notices and orders were served. These notices and orders affected the abatement of insanitary conditions including the relaying or repair of 1540 drains ; the provision of 1034 flushing appliances to waterclosets where none existed previously and the replacement of 833 obsolete closets by modern pans ; washing conveniences were installed in 234 houses and facilities for the proper storage, preparation and cooking of food made satisfactory in 541 houses ; new and additional water supplies were provided for 31 houses and 1112 roofs repaired.

1491 houses were inspected for action under the appropriate sections of the Housing Act 1925/35 ; 665 of these were satisfactorily repaired.

No court proceedings were taken during the year to enforce the abatement of nuisances.

Premises and occupations controlled by bye-laws or regulations.

Houses-let-in-lodgings.

Bye-laws are in force in the city which incorporate the provisions of sections 6 and 7 of the Housing Act, 1925. At the end of 1935 248 properties had been registered under these revised byelaws.

Common lodging houses.

During the year four common lodging houses were closed voluntarily and one was destroyed by fire. At the end of 1935, 27 common lodging houses were in use and occupation, including one belonging to the Corporation. Fourteen of these have been included within clearance orders made in pursuance of part I of the Housing Act, 1930.

The municipal lodging house continues to meet a definite need in the city. The total occupations recorded for the year were 31,396 which was 3,117 more than during the previous year. The nightly average was 86. The charge for each lodger is 1/- per night, or a weekly ticket can be purchased for 6/- ; extras for baths 3d., for parcels 2d. each parcel.

In the report for 1934 full details were given of the accommodations proposed by Dr. A. G. Morison, deputy medical officer of health, and approved by the Health Committee concerning the standard of fitness to be adopted in the consideration of the registration of common lodging houses. The following is a summary of these recommendations :

Summary of recommendations :

(1) General

House to conform to accepted standards for dwelling houses in the city.

(2) Special.

- (a) The avoidance of overcrowding in bedrooms—
Standard to be 40 square feet of floor space for each lodger.
- (b) Appropriate day room (or sitting room)—
Such room apart from bedrooms and kitchen—size 15 square feet per lodger.
- (c) Appropriate water supply—
One fixed lavatory basin for every 10 lodgers ; not to be in bedrooms ; one bathing convenience for every 15 lodgers.
- (d) Appropriate supply of sanitary conveniences—
For not more than 30 persons one water closet for 10 or any part of 10, and for numbers over 30, one additional water closet per 15 or any part of 15. One water closet or slop closet on every storey above the second.
- (e) Cooking facilities—
The provision of adequate room as kitchen for the lodgers ; such room to be apart from bedrooms and day room.
- (f) Washing of clothes—
The provision of facilities for washing and drying of clothes.
- (g) Escape in case of fire.
Standard contained in the Bristol Corporation Act, 1926, section 89.

Tents, vans and sheds, etc.

Periodical visits of inspection are made of all caravans, huts, tents, etc., which are used for human habitation. 278 such visits were made during the year and in only four instances was it found necessary to deal with infringements of the bye-laws governing such dwellings.

At the end of 1935 there were, within the city, 36 caravans, 13 huts and seven tents of a more or less permanent character, and occupied by 84 adults and 40 children ; and 67 caravans, 10 portable huts and eight tents belonging to showpeople, hawkers, etc., and temporarily stationed in the city. These latter were occupied by 153 adults and 75 children.

It is noted that many caravan dwellers provide themselves with lightly constructed portable huts in substitution for tents, and these are utilised for living purposes.

Offensive trades.

Routine inspections numbering 606 were made of premises upon which offensive trades were carried on, and in 18 instances it was found necessary to call attention to infringements of the bye-laws.

Fourteen applications were made to the Health Committee for consent to the establishment of the business of fish frying and consent was given in respect of five applications. Two annual consents were not renewed as the businesses had closed down voluntarily.

Annual consents to establish or continue fish-frying.

No. of applications.		Annual consents		Applica- tions withdrawn	No. of applica- tions in abeyance at end of year.	Total no. of consents in force (December, 1934)
In abeyance from previous year.	Received during the year.	Granted	Not granted			
—	14	5	3	4	2	48

The Health Committee has also issued annual consents in respect of the businesses of tripe-boiling and gut-scraping.

Underground sleeping rooms.

The Council has approved regulations for securing the proper ventilation and lighting of rooms in respect of which section 18 (1) of the Housing Act, 1925, applies, and the protection thereof against dampness, effluvia or exhalation.

Places of entertainment.

During the year the inspectors made 219 inspections of cinemas, theatres, and other places of entertainments; some of these visits being during a performance.

The methods of heating and ventilating the halls, and the provision of sanitary accommodation were found to be generally satisfactory. It was necessary however, to serve notices or give verbal intimation with regard to insanitary water closet accommodation or cleansing in 11 instances.

Workshops, etc.

Fifty-one notices relating to sanitary defects in factories, workshops, etc., were received during the year from H.M. inspector of factories.

Homework—lists of outworkers received during 1935.

	No. of outworkers	
	February	August
Boot and shoe making	8	9
Manufacture of bedding	—	—
Making of wearing apparel	67	74
Particulars received from other authorities	9	—
Total ...	84	83

The lists of outworkers and their addresses were supplied to the town clerk by the various employers. These premises were visited by the district sanitary inspectors during the course of their duties and in every instance the premises were found to be satisfactory.

Factory and Workshop Act, 1901.

1.—*Inspection of factories, workshops and workplaces.*

Premises. (1)	Number of		
	Inspections (2)	Written notices (3)	Occupiers prosecuted (4)
Factories (Including factory laundries) ...	202	26	—
Workshops (Including workshop laundries)...	627	35	—
Workplaces (Other than outworkers premises)	223	15	—
Total ...	1052	76	• —

2.—*Defects found in factories, workshops and workplaces.*

Particulars (1)	Number of defects			Number of offences in respect to which prosecutions were instituted (5)
	Found (2)	Remedied (3)	Referred to H.M. Inspector (4)	
<i>Nuisances under the Public Health Acts :*</i>				
Want of cleanliness	72	67	—	—
Want of ventilation	9	7	—	—
Overcrowding	—	—	—	—
Want of drainage of floors ...	2	2	1	—
Other nuisances	57	53	—	—
Sanitary accommodation { insufficient	10	10	—	—
{ unsuitable or defective ...	39	35	1	—
{ not separate for sexes ...	4	4	—	—
<i>Offences under the Factory and Workshop Acts :</i>				
Illegal occupation of underground bakehouses (s.101)	—	—	—	—
Other offences	4	4	—	—
(Excluding offences relating to outwork and offences under the sections mentioned in the schedule to the Ministry of Health (Factories and Workshops Transfer of Powers) Order, 1921)				
Total ...	197	182	2	—

* Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act, 1901, as remediable under the Public Health Acts.

Outwork in unwholesome premises, Section 108.

There were no instances of sanitary defects on outworkers' premises reported during the year.

Underground bakehouses.

The number of underground bakehouses in use at the passing of the Factory & Workshops Act, 1901 (17th August, 1901) in the city was 54. The number remaining in use at the end of 1935 was 10 and these were found to be maintained in a satisfactory condition.

Rag Flock Acts, 1911 and 1918.

Rag flock is used in a few premises in the city. Four samples were taken during the year, analysed by the public analyst, and found to conform to the standard of cleanliness laid down in the regulations.

Shops Acts, 1934.

As reported last year, the sanitary inspectors have been responsible throughout the year for this Act in so far as it relates to sanitation, heating, lighting and ventilation, etc., The summary table (p. 66) indicates the improvements effected in shops under the provisions of the Act.

Smoke abatement.

During the year 64 observations for smoke were taken and in seven instances the emission of smoke was in excess of that permitted by the byelaws made under section 2 of the Public Health (Smoke Abatement) Act, 1926. The firms concerned were immediately informed and advice given to the employees responsible. The nuisances arising from the smoke emissions referred to were abated without statutory action.

Two deposit gauges for measuring atmospheric pollution are in use in the city—one at the Clifton Zoological Gardens and one in the centre of the city. The samples are collected each month and the rainfall and deposits are measured and both subjected to analysis. The records of such measurements and atmospheric pollution will be found in the report by the city analyst.

Conference of the National Smoke Abatement Society.

The seventh annual congress of the National Smoke Abatement Society was held in the Board Room at St. Peter's Hospital from September 19th—21st, 1935. The delegates were welcomed to the city by the Lord Mayor (Alderman H. J. Maggs, J.P.) at a reception given at the Mansion House. Full reports have been published by the Society on the proceedings at the congress.

Schools.

The medical officer of health is also the school medical officer and issues a separate report which deals with the health of the scholars and the sanitation of schools. Some 56,000 children are kept under medical supervision during their school career at the inspection and treatment clinics.

Cleansing and disinfection.

Accommodation is provided at the central disinfecting station, St. Philip's Marsh, for the bathing and disinfestation of verminous persons of both sexes, and their belongings, and during the year 82 men and 24 women were dealt with. Children of school age receive attention at the school clinics.

The staff, equipment and plant at the central disinfecting station is as stated in previous reports. The number of disinfections last year of premises and articles, and articles destroyed, following exposure to infection are given below :—

1934		1935
4,341	Premises disinfected	5,566
98,185	Articles „	99,719
1,490	Articles destroyed	2,049

Cemeteries.

The cemeteries belonging to the Corporation are managed by the Municipal Cemeteries Committee.

Particulars of these cemeteries are as follows :—

Name of cemetery	Area of present cemetery	Land available for extension	No. of burials during the year ended Mar. 1935
Greenbank ...	32	Nil	1,264
Canford ...	21	8	733
Avonview ...	12	11	545
Shirehampton	6	6	71
Brislington ...	2	Nil	54

Greenbank cemetery was taken over from St. Philip and St. Jacob Burial Board in 1895 ; the Avonview cemetery from the St. George Burial Board in the 1897 extension of the city ; the Canford and Shirehampton cemeteries from the Barton Regis Rural District Council in the 1914 extension of the city ; and the Brislington cemetery was incorporated in the city under the Somerset Review Order, 1933.

In May, 1935, the Council approved proposals to purchase from the Ashton Court Estate land at Bedminster Down, which is reserved in the draft town planning scheme for cemetery purposes. This land which has an area of 78·64 acres with a frontage of 370 feet on the main Bridgwater Road, was negotiated at £10,223, which equates to a price of £130 per acre. The land is also subject to a tithe rent of £11 per annum. Bedminster Down is a rapidly growing district and the need for a cemetery is acute as (apart from the small cemetery at Brislington) the nearest Corporation cemetery is at Greenbank. Only a small portion of the land will be immediately required and it is proposed to re-instate allotment holders on a

large portion of the land which will not be required for cemetery purposes for some years.

In addition, two cemeteries are provided by private companies (53 acres) and two by ecclesiastical bodies (6 acres), the main private cemetery being that at Arnos Vale (45 acres) where there is also a crematorium which was opened for use on the 10th February, 1928, by the Bristol General Cemetery Co. Since that date, 1685 cremations have taken place including 312 in 1935. The existing cemeteries with land held in reserve will, it is anticipated, provide adequately for the needs of the city for the next 15 years.

Animal or insect pests.

No circumstances occurred during 1935 calling for special comment.

Rats and Mice (Destruction) Act, 1919.

The services provided by the Council for the suppression of rats and mice were actively continued by the staff of four rat catchers employed in the city and port under the direction of the chief sanitary inspector. The figures relating to rats destroyed on ships, quays, wharves, refuse tips, in the vicinity of Avonmouth, Bristol, or Portishead docks will be found in the report of the port medical officer of health. The work carried out in the city during 1935 was as follows :—

	Baits		Traps set.	Total no. of rats destroyed by trapping and fumigation	No. of rats examined at University laboratory (other than those caught on ships and docks)
	Laid	taken (approximate number)			
Generally in the city	99,860	48,811	1,932	1,310 and 63 mice	—
In public sewers (undertaken by the city engineer's department) ...	33,392	25,461	—	—	—
Total ...	133,252	74,272	1,932	1,310 & 63 mice	—

During National Rat Week (4th to 9th November, 1935) the city engineer caused 17,069 baits to be laid in the city sewers (approximately 12,768 of which were taken); and in the city, 2,823 baits were laid (approximately 1,402 of which were taken); and 63 rat traps were set, which resulted in 54 rats being caught.

Leaflets giving information as to the best methods of destroying rats and mice, etc., are available to the general public.

B.—HOUSING.

1934	PARTICULARS ASKED FOR IN MINISTRY OF HEALTH CIRCULAR 1346.				1935
	<i>Inspection of dwelling houses.</i>				
1,377	(1) (a) Total number of dwelling houses inspected for housing defects (under Housing Acts)				1,491
2,066	(b) Number of inspections made for the purpose				2,982
	(2) (a) Number of dwelling houses (included under sub-head 1 above) which were inspected and recorded under the Housing Consolidated Regulations, 1925				1,491
1,377	(b) Number of inspections made for the purpose				2,982
2,066	(3) Number of dwelling houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation				860
713	(4) Number of dwelling houses (exclusive to those referred to under the preceding sub-head) found not to be in all respects reasonably fit for human habitation				631
664	<i>Remedy of defects without service of formal notices.</i>				
	Number of defective dwelling houses rendered fit in consequence of informal action by the local authority or their officers				249
227	<i>Action under statutory powers.</i>				
	Proceedings under secs. 17, 18 and 23 Housing Act, 1930.				
397	Number of dwelling houses in respect of which notices were served requiring repairs				438
	Number of dwelling houses which were rendered fit after service of formal notices :—				
208	By owners				352
16	By local authority in default of owners				19
	Proceedings under Public Health, Acts.				
	Number of dwelling houses in respect of which notices were served requiring defects to be remedied, verbal notices excluded				1,006
835	Number of dwelling houses in which defects were remedied after service of formal notices :—				
		Private party drains			
		Nuisances etc. No. of houses	No. of notices	Number of dwelling houses served	
223	By owners	123	6	14	137
222	By local authority in default of owners	10	22	195*	205
445		133	28	209	342
	Proceedings under secs. 19 and 21 Housing Act, 1930.				
101	Number of dwelling houses in respect of which demolition orders were made				75
186	Number of dwelling houses demolished in pursuance of demolition orders				86
	Proceedings under sec. 20 Housing Act, 1930 :—				
2	Number of separate tenements or underground rooms in respect of which closing orders were made				1
4	Number of separate tenements or underground rooms in respect of which closing orders were determined, the tenement or room having been rendered fit				—
	Proceedings under secs. 11, 14 and 15, Housing Act, 1925 :—				
21	Number of dwelling houses in respect of which closing orders were determined, the dwelling houses having been rendered fit				4
19	Number of dwelling houses in respect of which demolition orders became operative				4
49	Number of dwelling houses demolished in pursuance of demolition orders				27

* In some of these cases the local authority relaid the combined drain and private contractors relaid branch drains, etc.

Clearance Orders—Housing Act, 1930.

Under section 51 (2) of the Housing Act, 1930, in 1935, 61 official representations were made by the medical officer of health relating to the following areas :—

Pooles Yard, Redcliff.
 Colston Street, Redcliff.
 Upper Adelaide Place, Redcliff.
 Paradise Cottages, Clarence Road.
 Gas Lane, St. Philip's.
 Reynard's Place, Horsefair.
 Fears Cottages, Frogmore Street.
 Little Ann Street, St. Jude's.
 Wade Street, St. Jude's.
 Great George Street, St. Jude's.
 Lawford's Gate, St. Jude's.
 Ash Lodge, Temple.
 Tower Terrace, Temple.
 Church Street, Temple.
 Temple Place, Temple.
 Rose Street, Temple.
 St. Thomas Street, Redcliffe.
 St. George's Road, St. Augustine's.
 Church Lane, Temple.
 Frome Street (No. 1) St. Paul's.
 Frome Street (No. 2) St. Paul's.
 Houlton Street, St. Paul's.
 Frome Place, Wade Street, St. Jude's.
 Gideon Place, St. Paul's.
 Orange, Street, St. Paul's.
 Baptist Street, Baptist Mills.
 Fox Road, Baptist Mills.
 Culver Street, St. Augustine's.
 Eagle Street, Easton.
 Lr. Whittaker's Buildings, Clifton Wood.
 Haggett's Cottages, Clifton Wood.
 Joy Hill, Hotwells.
 Granby Hill, Hotwells.
 Zion Road (No. 1), St. Philip's.
 Zion Road (No. 2), St. Philip's.
 Dove Lane, St. Paul's.
 Byron Place, St. Paul's.
 Tankard's Close (No. 1), St. Michael's.
 Tankard's Close (No. 2), St. Michael's.
 East Buildings, Sussex Street, St. Philip's.
 Walcot Street, St. Paul's.
 Stoney, Hill, St. Michael's.
 Harford Square, Harford Street.
 Morgans Court, St. Augustine's.
 Regent Street, Bedminster.
 Princess Street, Bedminster.
 Princess Buildings, Princess Street, Bedminster.
 Wilder Street (No. 1), St. Paul's.
 Backfields, Upper York Street, St. Paul's.
 Circus Place, Moon Street, St. James'.
 Wilder Street (No. 2), St. Paul's.

Phoenix Street, Barton Hill.
 Folly Lane (No. 2), St. Philip's.
 Lower Guinea Street, Redcliffe.
 Ayres Buildings, Commercial Road, Redcliff.
 Bishop Street, Bedminster.
 Hillgrove Street, Bedminster.
 Malago Cottages, Hereford Street, Bedminster.
 Millbrook Cottages, Sidney Row, Bedminster.
 Davis Buildings, West Street, Bedminster.
 Lower Bayntons Buildings, Ashton Gate.

The total number of houses included in these areas was 713 and the population 3,140.

In addition, 75 demolition orders have been made on individual unfit houses during the year.

The following is a summary of the action taken under the Housing Act, 1930, since it came into operation, to 31st December, 1935.

A.—Repair procedure—sections 17 and 18.

HOUSES REPAIRED.

Year	By owners		By Corporation in default of owners	Annual Totals
	(a) after informal action	(b) after formal action		
1930 (Aug. to Dec.)	75	51	9	135
1931	140	53	21	214
1932	108	48	2	158
1933	91	44	15	150
1934	227	208	16	451
1935	249	352	19	620

B.—Procedure by section 19.

Year	Demolition Orders made	Undertaking to render fit accepted	Undertakings not to use for human habitation accepted	Total
1930	—	—	—	—
1931	109	6	7	122
1932	180	29	10	219
1933	100	29	2	131
1934	101	42	7	150
1935	75	46	25	146

C.—Area procedure—section 1.

HOUSES REPRESENTED IN CLEARANCE AREAS.

Year	No. of houses			
1930	0
1931	70
1932	107
1933	357
1934	570
1935	713

Housing Act, 1935—overcrowding survey.

Section 1 of the Housing Act, 1935, imposed upon local authorities the duty of making such a survey as would ascertain what dwelling houses within their areas are overcrowded. The Act—section 12—defined a dwelling house in regard to this matter thus: “Dwelling house” means any premises used as a separate dwelling by members of the working classes or of a type suitable for such use.

The Act also imposed upon the medical officer of health a duty to report annually to the Ministry as to conditions in relation to overcrowding.

The Ministry of Health issued a memorandum (Memorandum B) dealing with the duties relating to the prevention and abatement of overcrowding, which now fall upon the local authority. The memorandum also gave in detail the method suggested as appropriate for carrying out an overcrowding survey. Herein also were prescribed the forms to be used in this task.

The survey was divided into two parts—

(1) Preliminary—the completion of a form (form A) concerning every structurally separate dwelling. This form was limited to the questions whether the house was empty, and, if occupied, what was the number of families and of persons in each family, and the number of rooms occupied by each family.

(2) Secondary—the completion of another form (form B) for every structurally separate dwelling revealed by form A to be overcrowded or probably overcrowded. This form was more elaborate, and had regard to the superficial areas of rooms, as well as to the ages and sexes of all occupants.

The facts disclosed by the above enquiries were required to be tabulated in still another form (form C). This form, however, was completed by a simple process of addition of the facts disclosed by forms A and B. This form revealed a picture of the housing conditions so far as overcrowding or uncrowding be concerned.

Such a summary form C was required to be completed for the whole of the area of the local authority, while forms A and B were also required by the Ministry, showing the facts ascertained with regard to houses belonging (a) to the authority, (b) to any other local authority.

According to the latest rating list (1934) there are in Bristol 93,174 premises utilised as dwelling houses or shops with dwelling accommodation. Of this number, 11,843 are houses on Corporation estates. After a careful consideration of the types of houses in the various parts of the city, together with their rateable values the survey was limited to embrace 79,895 houses.

The Housing Committee decided to appoint a special temporary staff to carry out this work, and on December 2nd, the survey was commenced under the general supervision of Mr. A. R. Sherman who was seconded for duty from the health department staff.

Part I was completed in just under 10 weeks' time; the more detailed part II taking nine weeks while the statistical analysis occupied seven further weeks.

As we go to press the Housing Committee have approved of the figures for submission to the Ministry of Health while the matter of a programme to deal with overcrowding is under their consideration.

Summary of form 'C' for city as surveyed.

Ward.	Overcrowded	Uncrowded	Total	Percentage overcrowded
Bedminster East	264	7,152	7,416	3.56
Bedminster West	184	7,912	8,096	2.27
Central East ...	10	539	549	1.82
Central West	—	281	281	—
St. Augustine's	111	3,131	3,242	3.42
St. Paul's ...	101	3,626	3,727	2.71
St. Michael's ...	17	1,216	1,233	1.38
St. James' ...	52	2,462	2,514	2.07
Redcliff ...	43	1,240	1,283	3.35
St. Philip North	111	4,190	4,301	2.58
St. Philip South	108	3,680	3,788	2.85
District ...	40	3,064	3,104	1.29
Stapleton ...	94	8,864	8,958	1.05
Clifton North...	6	257	263	2.28
Clifton South...	15	931	946	1.58
Easton ...	67	5,732	5,799	1.15
Southville ...	52	4,615	4,667	1.11
St. George East	203	7,469	7,672	2.67
St. George West	167	4,960	5,127	3.26
Horfield ...	99	4,684	4,783	2.07
Westbury ...	118	5,352	5,470	2.16
Somerset ...	100	10,493	10,593	0.94
Total ...	1,962	91,850	93,812	2.09

The above figures relate to "dwelling-houses" as defined by section 12, Housing Act, 1935.

Summary of form 'C' for corporation-owned property.

Ward	Overcrowded	Uncrowded	Total	Percentage overcrowded
Bedminster East	197	2,711	2,908	6.77
Bedminster West	86	733	819	10.50
Central East ...	4	60	64	6.25
Central West ...	—	62	62	—
St. Augustine's	16	160	176	9.09
St. Paul's ...	—	3	3	—
St. Michael's ...	—	13	13	—
St. James' ...	2	48	50	4.00
Redcliff ...	—	69	69	—
St. Philip North	3	126	129	2.32
St. Philip South	3	81	84	3.57
District ...	—	—	—	—
Stapleton ...	42	1,683	1,725	2.43
Clifton North	—	—	—	—
Clifton South...	—	—	—	—
Easton ...	—	23	23	—
Southville ...	1	26	27	3.70
St. George East	69	838	907	7.61
St. George West	1	58	59	1.69
Horfield ...	85	1,125	1,210	7.02
Westbury ...	99	3,094	3,193	3.10
Somerset ...	44	1,763	1,807	2.43
Total ...	652	12,676	13,328	4.89

The above figures relate to "dwelling-houses" as defined by section 12, Housing Act, 1935.

Analysis of form 'C' for city as surveyed.

(1) No. of rooms in dwelling- house	(2) Permitted number of persons	(3) No. of houses required to abate the revealed overcrowding	(4) Accommodation rendered vacant by rehousing the revealed overcrowded families.			Net difference between columns (3) and (4)
			Sublet	Not sublet	Total	
1 room	1 1½ 2	14 1 29 } 44			19 25 105 } 149	Nil
2 rooms	2½ 3	60 46 } 106			13 462 } 475	Nil
3 rooms	3½ 4 4½ 5	224 161 54 91 } 530	6 15 66 148	4 4 29 80	10 19 95 228 } 352	200
4 rooms	5½ 6 6½ 7 7½	93 126 163 234 134 } 750	3 8 5 5 13	24 408 133 98 90	27 416 138 103 103 } 787	210
5 rooms	8 8½ 9 9½ 10	166 93 85 51 40 } 435	— 2 1 1 —	28 44 32 5 1	28 46 33 6 1 } 321	325
6 rooms	10½ 11 11½ 12	16 10 8 3 } 37	— — — —	— 2 — —	— 2 — — } 2	35
7 rooms	12½ 13 13½ 14	3 1 1 — } 5	— — — —	— — — —	— — — — } —	5
		1,907			1879	775

The figure of "775 dwelling-houses" (representing the difference between columns 3 and 4 above) is a hypothetical minimum and for the consideration of any practical meaning which may be given it requires statistical correction, paying respect to the following points :—

- (a) The figure is based on the hypothesis that the houses rendered vacant by the re-housing of the families at present overcrowded will be occupied in any reshuffle to their maximum capacities ; that is to say, to an extent just ready to become overcrowded again. The importance of this consideration is proved by the fact that in the city now, there are dwelling-houses which are on the point of becoming overcrowded, but which are not shown in the survey as being overcrowded. The survey has revealed 260 dwelling-houses which will require review by December 1936 and 429 which will require

review by December, 1937, because overcrowding shall by then have taken place by reason only of the normal advancement in age of the occupants.

- (b) The figure has no regard to the houses rendered vacant being "suitable alternative accommodation" or not. Section 12, Housing Act, 1935, defines "suitable alternative accommodation" as follows :—

"in relation to the occupier of a dwelling-house, a dwelling-house as to which the following conditions are satisfied, that is to say—

- (a) the house must be a house in which the occupier and his family can live without causing it to be overcrowded ;
- (b) the local authority must certify the house to be suitable to the needs of the occupier and his family as respects security of tenure and proximity to place of work and otherwise and to be suitable in relation to his means ; and
- (c) if the house belongs to the local authority, they must certify it to be suitable to the needs of the occupier and his family as respects extent of accommodation having regard to the standard specified in paragraph (ii) of the section 37 of the Act of 1930."

It is particularly to be noted that the above definition of suitability pays respect, for example, to the matter of proximity to place of work of any suggested new dwelling-house for an overcrowded family, as well as to security of tenure (of the 1879 houses hypothetically vacated in column 4, table 2, the number belonging to the Corporation is 652).

V.—INSPECTION AND SUPERVISION OF FOOD.

Milk supply—milk examined for tubercle—Milk (special designations) Order 1923—Milk and dairies Order 1926—milk in schools—ice cream—meat and other foods—slaughterhouses—corporation abattoir—slaughter of animals Act 1933—licences to slaughter—Food and drugs (adulteration) Act, 1928, etc.—Fertilisers and feeding stuffs Act 1928—Poisons and pharmacy Act 1928—Merchandise marks Act 1926—Agricultural produce (grading and marking) Act 1928—Destructive insects and pests Act 1907—noxious weeds—Artificial cream Act 1929—liquid eggs—chemical and bacteriological examination of food.

V.—INSPECTION AND SUPERVISION OF FOOD.

1934	SUMMARY OF WORK EFFECTED.	1935
	<i>Dairies, milkshops and cowsheds :</i>	
6278	Visits paid	5675
252	Notices served	204
104	Premises cleansed	46
96	Premises built, repaired or altered	44
129	Drains amended	34
124	Insanitary water closets amended	40
26	Water closets fitted with pans and traps ...	6
26	Water closets fitted with flushing appliances ...	6
719	Other defects remedied	361
	<i>Samples taken :</i>	
108	For pasteurised test	109
490	For tubercle examination	373
39	Repeats	184
28	Certified milk	28
129	Grade A (tuberculin tested)	179
44	Grade A	31
132	Pasteurised	223
48	Category and special	29
69	Test samples at institutions	95
911	Under Food and Drugs Acts	1060
	Ice cream, tubercle and bacteriological exami-	
72	nations	48
10	Sundry samples	6
	<i>Licences for graded milks.</i>	
8	For the sale of certified milk	7
7	Bottling and sale of grade A (tuberculin tested)	7
23	To sell grade A (tuberculin tested)	35
1	To produce grade A milk	3
1	To bottle grade A milk	2
14	To sell grade A milk	13
	Supplementary licences to sell graded milks	
4	from premises outside the city	8
6	To produce pasteurised milk	6
12	To sell pasteurised milk	16

(a) Milk Supply.

During the year the food inspectors have had under supervision 1,245 registrations for the sale and production of milk, also 97 licences for the sale of graded milk. 2,216 samples of milk were taken for chemical and bacteriological examination and these included 461 samples of graded milk; 22 of these samples were found not complying with the official standard. In all cases appropriate action was taken to trace and rectify defective milk.

Milk examined for tubercle.

There were 557 samples of milk taken for tubercle examination of which 19 were found to contain bacilli, affecting 13 producers whose total combined daily output was 578 gallons. 25 cows were traced and destroyed, all found to be affected with tuberculosis. In addition, 121 samples of milk produced outside the city were found to contain dirt, pus, organisms, etc. These reports were forwarded to the county authority concerned.

Some idea of the time taken to clear a producer's farm where the milk of the herd has been found to contain tubercle bacilli, is seen from the following summaries of activities on each farm. These periods range from two to six months during which time the affected bulk milk continued to be supplied to the public without in any way being rendered safe.

- Farm 1. Two samples of milk produced at this farm were found to contain tubercle bacilli. One cow was clinically examined by the veterinary surgeon and destroyed, post-mortem revealing tuberculosis, another cow was destroyed on preliminary report, the final report being returned as negative but post-mortem revealed extensive tuberculosis. The period from finding first positive sample to destruction of last cow was three months.
- Farm 2. A sample of milk was found to contain tubercle bacilli; after further sampling one cow was destroyed; period taken to discover culprit was three months.
- Farm 3. One sample of milk was found to contain tubercle bacilli; further sampling and visits by veterinary surgeon took place. Five cows were traced and destroyed all being affected with tuberculosis, this farm taking 5½ months to clear.
- Farm 4. After extensive examination by veterinary surgeon and further sampling over a period of four months, the source of infection of a sample of tuberculous milk was never discovered.
- Farm 5. Two samples contained tubercle bacilli; one cow was traced and destroyed, period of infection lasted two months.
- Farm 6. A large herd was divided into ten groups, two were returned as positive. These two groups of eight cows were tested individually; one cow in one group was traced and destroyed, one cow in the other group had been sold. The period of infection at this farm was five months.
- Farm 7. One sample of milk was found to contain tubercle bacilli but after extensive sampling and inspection by veterinary surgeon no trace of infection could be found. Further sampling over period of six months did not reveal any tubercle bacilli.
- Farm 8. One sample of milk containing tubercle bacilli, a bulk and one individual sample taken, both being positive. The

cow was destroyed and found affected with tubercle bacilli but on further sampling and inspection by veterinary surgeon no other affected cows could be found. Veterinary surgeon considered infection probably due to lack of proper care at milking and dung.

- Farm 9. After clinical and inoculation examination the source of infection of a sample of milk containing tubercle bacilli could not be traced ; further samples taken did not reveal any tubercle bacilli.
- Farm 10. Two samples were found affected. Two cows were inspected clinically and found to be affected with tuberculosis of the udder ; a bulk sample from the rest of herd was taken which proved positive. Three individual samples and a bulk sample from the rest of the herd was then taken. One individual sample proved to be positive, the rest were negative. The post-mortem confirmed diagnosis in all three cases. This farm was infected for four months.
- Farm 11. One sample. This farm was inspected by veterinary surgeon and after clinical examination one cow was destroyed, post-mortem revealing tubercle bacilli. Samples taken from the rest of the herd were returned as negative ; repeat samples were also negative, the length of infection was two months.
- Farm 12. Three samples. The herd of 24 cows was inspected and sampled, one individually, the rest in bulk, the bulk sample being returned as positive. Further bulk samples taken did not reveal the presence of tubercle bacilli. With a view to clearing this farm further bulk samples were taken which were returned as positive. Veterinary surgeon then made clinical examination. Two suspected cows were destroyed, post-mortem revealing presence of tuberculosis. Further samples from this herd were all returned as showing no sign of tuberculosis. To trace and clear source of infection took six months.
- Farm 13. One sample. One cow was traced through clinical examination, post-mortem confirming diagnosis. Further sampling all returned as negative.

The samples of milk including repeats examined for tuberculosis were from :—

Producers.					No. of specimens.	Tubercle bacilli present in.
City	...	...	...	...	89	4
Somerset	...	...	...	...	147	7
Gloucestershire	...	...	...	...	136	8
Wiltshire	...	..	...	...	—	—

Compared with previous years the amount of milk cleansed and pasteurised before delivery to the consumer has increased and is

estimated as 66·66 per cent. approximate of the daily supply. The amount of 'bottled' milk retailed is estimated to have been increased to 71·5 per cent. approximate (not including an additional 7·7 per cent. approximate of 'homogenised' milk).

1934	Amount consumed daily	1935
18½ gallons	Certified milk	14
291½ „	Grade A, T.T.	367
170 „	Grade A	237
11,697 „	Pasteurised	12,663
1,500 „	Homogenised	1,463

Milk (Special Designations) Order, 1923.

One hundred and nine (109) samples of milk were taken and submitted to the University (by number) for various test purposes in determining the extent of pasteurisation. Incomplete pasteurisation was revealed in 36 of these samples. These examinations are now carried out as a matter of routine.

The pasteurising plants used by the six firms holding licences for the production of pasteurised milk are of the following size and make :—

Firm	Positive holder.	Capacity per hour gallons.
A	Enock's 8 drum	600
B	Silkeborg	350
C	A.P.V.	1,000
D	Astra	220
E	A.P.V.	200
F	Astra	350

Milk and Dairies Order, 1926.

Other milks.

The department of preventive medicine classified samples of other milks so that

Category 1—should comply with grade A requirements ;

Category 2—those samples which fall below category 1.

Of the 29 samples of milk submitted during the year, 23 were placed in category 1 and 6 in category 2.

Registration.

The number of registrations are :—

Cowkeepers	... ..	66
Dairymen	... ..	379
Milkshops	... ..	627

in addition to which there are 173 dairymen retailing milk within the city from outside districts, making a total of 1,245, an addition of 131 over the previous year, due to the extension of the city boundary and the activities of the Milk Marketing Board.

The cowsheds are in a poor condition generally. As a rule, the Company's water is laid on, but there are a few farms on the boundary where the supply is obtained from collected rain water, wells and rhines as no public supply is available.

The 379 dairies in the city require constant attention. It is essential that every dairy should be provided with a separate room for dairy purposes. In this I can report substantial progress, but the problem of the 627 registered small milkshops gives rise to much concern.

One method of dealing with these small milkshops which has proved successful in a large number of cases is to insist on the small general shop retailer dealing only in bottled milk.

Many shopkeepers are allowed to sell milk on the understanding that only unopened bottled milk is sold, thus eliminating some of the most undesirable retail premises. The number of shopkeepers in the city who retail homogenised milk is 560, some of which are included in the figure relating to registered milkshops. The registration of the remainder of these shop-keepers is being proceeded with, although a large number remain unregistered.

Legal proceedings.

No proceedings were undertaken during the year for infringements of the Milk and Dairies Order 1926.

Milk in schools.

The facilities for the supply of milk to schools at low cost has led to a considerable increase in consumption by school children, and consequently this department is giving special attention to the standard of milk supplied and also to the sources of supply.

One hundred and thirty eight (138) samples were taken during the year for examination as follows :—

Samples.	Complied.	Failed to comply.
10 as to quality ...	10	—
90 as to degree of pasteurisation	62	28
38 as to bacteria count	36	2

Twenty-eight of the samples examined for degree of pasteurisation showed improper treatment, largely due to the milk having been re-heated to above 150 degree Fahr. in order that it should not be cold when delivered to the children. Two samples were found to

contain bacteria in excess of that allowed by the Milk (Special Designations) Order 1923.

Arising out of these results the pasteurisation plants were dismantled, overhauled and the recorders checked, following which there was a marked improvement in the milk afterwards supplied.

Icecream.

In 1935, 228 premises remained on the register for the manufacture, sale or storage of ice cream. The Bristol Corporation Act 1926 provides that all premises for the manufacture or sale of ice cream shall be registered for such purposes while section 38 (1) of the Bristol Corporation Act 1905 protects consumers by regulating the ice cream trade under penalty (vide report for 1934).

(b) Meat and other foods.

1934	SUMMARY OF WORK EFFECTED.	1935
	<i>Slaughterhouses and meat, etc., premises.</i>	
6,237	Visits to slaughterhouses	5,400
1,255	„ wholesale and retail meat markets	1,164
2,259	„ meat and fish shops	1,868
66	„ cattle markets and railway sidings	64
8	„ fish curing premises	9
75	„ sausage, etc., making premises	52
76	„ cold stores	103
56	Slaughterhouses cleansed	34
5	Slaughterhouses rebuilt, repaired or altered	13
1	Sanitary defects, etc., remedied	1
	<i>Meat, etc., destroyed.</i>	
355	Entire carcasses	341
69	Beasts, cows, etc.	59
7	Calves	7
70	Sheep	19
209	Pigs	248
93.11.1.17½	Total weight—tons, cwts., qrs., lbs. ...	96.17.3.2¼
51. 9.0.26½	Meat from slaughterhouses and shops	60.19.1.17½
5.15.0. 9½	Meat from cold stores	4.15.0.10
—	Meat at abattoir	1.18.0.16
36. 7.0. 9½	Fish, poultry, rabbits, vegetables, etc. ...	29. 5.0.14¼

The Bristol Corporation Act, 1926 enables the Corporation to make and enforce bye-laws to insist upon all butchers bringing freshly killed meat into the city from outside districts to submit the meat for inspection by the city inspectors : but this power has not been utilised. In addition, the city inspectors may visit slaughterhouses situated within a radius of ten miles from the Council House and examine meat in course of delivery, which if found diseased or unsound, may be seized and dealt with as if exposed for sale. A considerable amount of the fresh meat consumed in the city is slaughtered outside the city boundaries.

By arrangement with the chief constable, police officers co-operate with health department officials in regard to certain sections of the

meat regulations and other matters, and their help has proved most useful and effective.

During the year the city food inspectors discovered or had surrendered to them nearly 97 tons of meat and other foodstuffs which was afterwards destroyed as diseased, unsound or unfit for human food, an increase of four tons on the quantity destroyed last year. The meat included the entire carcasses of 341 animals which were destroyed for the undermentioned reasons :—

Condition.	No. of animals
BEASTS, COWS, &c.	
Tubercular	51
Dropsical	3
Pericarditis and dropsy ; uraemia	2 each
Bruised	1
CALVES.	
Immature	2
Congenital septicaemia, johnes disease, putrid, umbilical peritonitis, unfit	1 each
SHEEP.	
Peritonitis	4
Dropsical	3
Dropsical and emaciated	3
Emaciated	3
Died	2
Jaundice, tubercular, putrid, unfit	1 each
PIGS.	
Tubercular	85
Swine fever	48
Swine erysipelas	33
Peritonitis	11
Brine stained, septic pneumonia	10 each
Died in pen, Pleurisy and peritonitis	6 each
Yellow jaundice	5
Pleurisy, and pneumonia, unfit, septicaemia, necrotic enteritis	4 each
Overfed, pleurisy and bronchitis, pyaemia	2 each
Choked, dropsy, emaciated, emaciated and dropsy, fevered, melanosis, pericarditis and dropsy, peritonitis and bronchitis, pleurisy, pleurisy and dropsy, ringworm, septic metritis	1 each

Legal proceedings in respect of unsound meat, etc.

Reason	Prosecutions	Results
Unlawful preparation for sale for human consumption of diseased and unsound meat	2	Fined £5 0 0 Dismissed. Orders made for destruction of meat in both cases.

Slaughterhouses.

Licenses valid.	In use.	Not in use	Total
Registered slaughterhouses ...	22	2	24
Permanently licensed do. ...	12	3	15
Annually licensed do. ...	21	—	21
Knackers' yards (annually licensed)	2	—	2
Total ...	57	5	62

At the end of the year 62 registrations or licenses were in force ; five of these concerned slaughterhouses not actually in use, and two related to additions made to slaughterhouses already licensed. The net total of slaughter houses in use is therefore 55. With the opening of the public abattoir it was found possible to reduce the number of annually licensed slaughter houses from 34 to 21.

Under the Public Health (Meat) Regulations, 1924, licencees are required to give the department notice of killing and daily visits are paid to the principal bacon factories in the city for the purpose of inspecting meat proposed to be used for human consumption. In this way the city staff inspected during the year no fewer than 105,910½ animals, including 4,861 beasts, 4,961 calves, 19,172 sheep, 53,254½ pigs, 23,589 New Zealand pigs, 3 New Zealand sheep and 250 Australian sheep ; also 408 Argentine hams.

Bristol Corporation Abattoir.

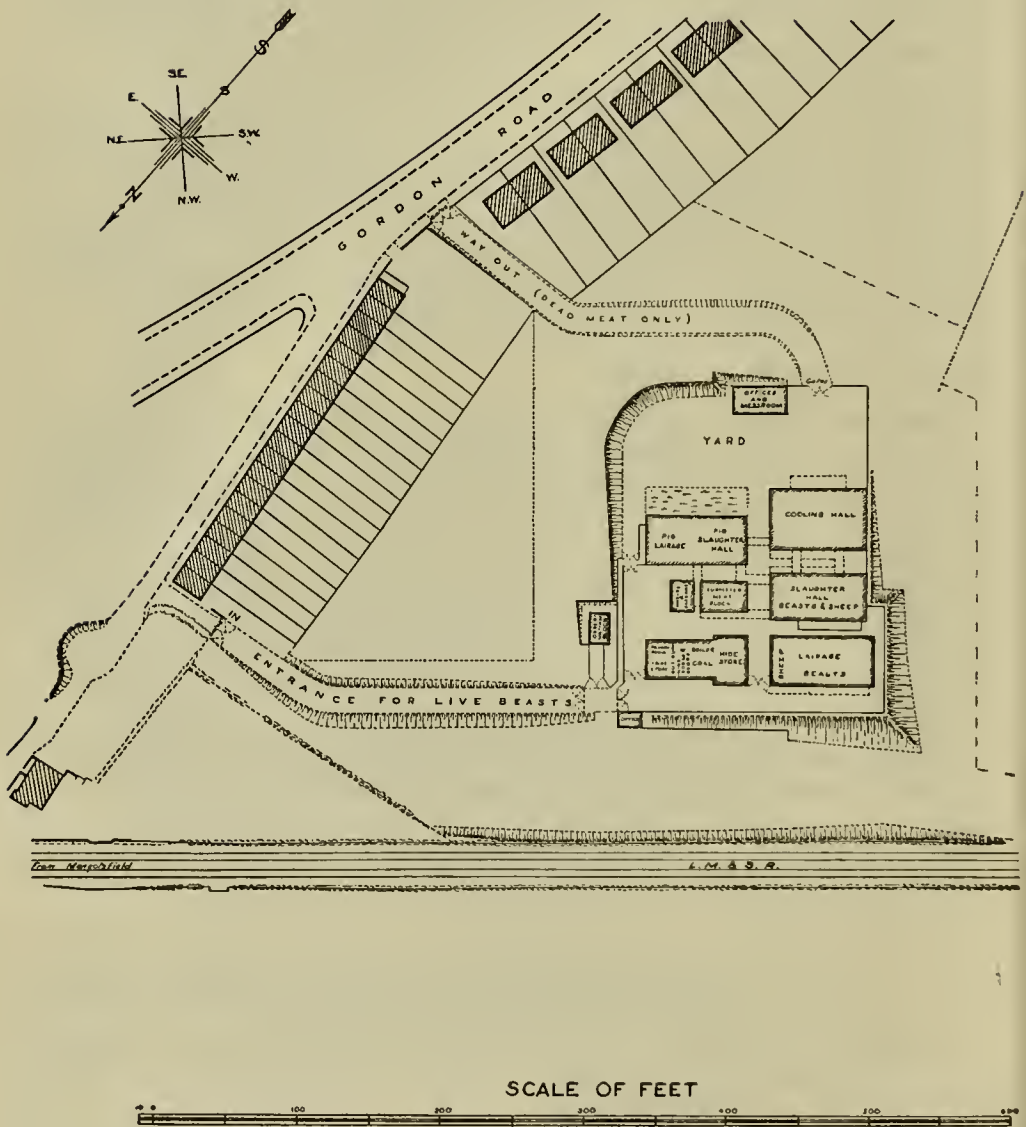
For close on three quarters of a century, the establishment of an abattoir has been at various times considered by the Health Committee. Various circumstances culminating in the war conspired to prevent any action being taken and it was not until 1927, following the presentation of a formidable petition to the Council that the question was more seriously taken up. The necessity for such an establishment, however, has arisen not only as a result of a public demand. In 1921 the Council were petitioned by butchers in the Bedminster area to erect a public abattoir owing to the lack of slaughterhouse accommodation in that district.

At the end of 1935 there were 62 slaughterhouses in the city of which 57 are in use. Many of these are admittedly unhygienic for various reasons.

The Council, in considering the provision of a public abattoir have been influenced by such arguments as the following :—

- (1) The existence of slaughterhouses in the city which cannot be made sanitary or which could only be made so at a cost which would be ruinous to the proprietor.
- (2) The shortage of slaughterhouse accommodation as shown by the large number of butchers that have to use other men's slaughterhouses.
- (3) The impossibility of obtaining suitable sites for new slaughterhouses.
- (4) The hygienic advantages offered by a properly constructed and equipped abattoir.
- (5) The need for proper facilities for the adequate inspection of meat.

BRISTOL CORPORATION ABATTOIR



Various sites have been considered from time to time but it was not until December, 1932, that the Health Committee, having submitted to the Council a scheme to appropriate three acres of land at Greenbank on the outskirts of the city adjacent to the railway line, were authorised to erect thereon an abattoir designed to meet present estimated requirements and developments for the next ten years. This site has room for further extension of about five acres.

The site of the abattoir, which lies between Gordon Road, Whitehall, and the London, Midland & Scottish railway, was approved by the Ministry of Health as well as the detailed plans of the buildings. The abattoir was officially opened on 16th October, 1935 by the Lord Mayor of Bristol (Alderman H. J. Maggs, J.P.).

The abattoir has been established at a total cost of £24,242, including a railway siding and unloading dock to be constructed. Adequate facilities conforming to the most up-to-date practice for lairage, slaughtering, cooling, as well as offices, lavatories, etc., are provided.

The abattoir will be entirely controlled and managed by the Health Committee on behalf of the Council.

General description of buildings.

All live beasts, sheep and pigs enter the abattoir by means of a concrete approach road from Gordon Road and have to pass the checking office before proceeding to their various lairages. The buildings erected comprise the very latest and most up-to-date plant and appliances for the hygienic slaughter of cattle. Every animal before slaughter will be stunned by means of an electrically operated instrument. Cattle are driven from the lairs direct into killing traps, where they are stunned and transferred to a bleeding rail, after which they are passed into either of the five dressing bays. Sheep are slaughtered at a specially prepared section. Pigs are dealt with in a separate building. The whole of the slaughtering places are connected by runways to a light and airy chilling room from which the carcasses are delivered to the trader. Special rooms are set apart to receive diseased meat, hides, guts, tripes, blood and manure. A separate section outside the boundary rails has been fitted up as an isolation block where suspected animals can be dealt with.

Slaughter of Animals Act 1933.

This Act came into force on the 28th July, 1933, and the provisions of section 1 were applied by the Council to sheep, ewes, wethers, rams and lambs as from the 17th January, 1934. This section provides that no animals to which the Act applies shall be slaughtered in a slaughterhouse or knacker's yard unless such animal is instantaneously slaughtered or instantaneously rendered insensible to pain until death supervenes by stunning with a mechanically operated instrument. The recent extension of the city under the County of Gloucester Review Order 1935 rendered a new resolution necessary as section 2 provides that any resolution under section 1 in force in an area which is extended shall be deemed

to be rescinded after a period of three months after the extension. The Council accordingly passed a new resolution applying section 1 to sheep, ewes, wethers, rams and lambs as from 1st August, 1935.

Licences to slaughter.

In 1935, 211 licences to slaughter were renewed and 18 new licences issued in accordance with the provisions of the Slaughter of Animals Act, 1933.

Preparation of food, etc.

All premises utilised for the preparation of food, etc., for human consumption are periodically inspected by the district sanitary inspectors. These places include bakehouses, cooked meat shops, fried fish shops, ice cream manufacturers, restaurants, street traders, etc. 720 inspections were made during the year, and 77 notices were served requiring the remedying of defects.

The business of fish frying has been declared an offensive trade and since 1926 the Health Committee has granted annual consents to the establishment of approved new businesses. There are 195 fried fish shops in the city, 48 of which are subject to annual consents.

(c) Adulteration, etc.

During the year, 1,576 samples of food and drugs were taken for analysis under the provisions of the Food and Drugs (Adulteration) Act, 1928, and allied acts and regulations, the proportion of samples examined being 3·81 per 1,000 population. Details of the samples submitted will be found in the report of the public analyst, showing that 69 or 4·44 per cent. were condemned as not genuine.

Legal proceedings were taken in 12 cases and penalties were imposed as follows :

£5	...	one case
£3	...	one case
£2	...	one case
£1	...	one case.
£3 costs		one case.
£1	„	four cases
4/-	„	one case

Two cases were dismissed ; the milk was found to be as the cow gave it. In 16 cases cautions were issued by the town clerk, and in one case a caution was sent by the Public Assistance Committee.

Fertilisers and Feeding Stuffs Act, 1928.

Twenty-six samples were taken and twenty-two were submitted to the agricultural analyst. Of the twenty six samples collected, fifteen complied with the requirements of the Act, but in eleven cases irregularities were revealed.

Five samples did not comply with the statutory statement supplied with the article ; and two samples contained hydrocyanic acid. With four samples there was given no statutory statement. The suppliers were in each case cautioned.

Poisons and Pharmacy Act, 1928.

All the premises licensed under this Act for the sale of poisonous substances for horticultural and agricultural purposes have been inspected ; two firms were cautioned for irregularities in their sales registers. Part II of the Pharmacy and Poisons Act 1933 which is enforced by the local Authority comes into operation on the first of May, 1936.

Merchandise Marks Act 1926.

The marking of imported eggs has been well observed, but some difficulty has again been experienced by exposing for sale certain "imported" eggs as "new laid." The marking of tomatoes and apples with the country of origin is still not satisfactory, but the marking of other articles of food is well observed.

Agricultural Produce (Grading and Marking) Act, 1928.

The cold stores, wholesale warehouses, and retailers have been regularly visited regarding the marking of cold stored and preserved eggs. The Act is being satisfactorily complied with. Eggs have on several occasions been submitted to the public analyst for examination, when a doubt arose as to their genuineness.

Destructive Insects and Pests Act 1907.

During the season inspections were made by the inspector of the Ministry and the inspector of the local authority. No new centre of wart disease of potatoes was found, but the disease was found on an infected plot again this year, owing to potatoes having been planted of a non-immune variety. The case was dealt with by the Ministry.

Noxious weeds.

Thirteen complaints were received as to the condition of void land and gardens. In ten cases upon notices being served upon the owners the nuisance was reduced ; three complaints did not warrant any action being taken. Two complaints came from medical men, who suggested the illness of their patients was caused by the pollen.

Artificial Cream Act 1929.

There are now four firms registered for the manufacture and sale of artificial cream. Legal proceedings were taken against one firm not having registered their premises and were ordered to pay 20/- costs.

Liquid eggs.

Thirty samples of liquid eggs and foods into the composition of which they enter, were collected and submitted for chemical and bacterial examination.

(d) Chemical and bacteriological examination of food.

The city chemical and bacteriological laboratories for the examination of food, situated at the University of Bristol department of preventive medicine, Canynge Hall, Bristol, are under the direction of F. E. Needs, Esq., F.I.C., whose report containing full particulars of the nature and number of samples submitted for analysis during the year will be found appended to this report.

VI.—PREVALENCE OF AND CONTROL OVER INFECTIOUS AND OTHER DISEASES.

Notifiable infectious diseases—smallpox—vaccination—diphtheria—diphtheria immunisation—diphtheria antitoxin—erysipelas—scarlet fever—enteric fever—dysentery—infectious diseases of the nervous system—non-notifiable infectious diseases—home nurses—influenza and respiratory diseases—heart disease—cancer—tuberculosis—boarded out cases—care and after-care—dispensary—venereal diseases—prevention of blindness.

VI.—PREVALENCE OF AND CONTROL OVER INFECTIOUS AND OTHER DISEASES.

Rate per 1,000 population.

	Bristol	England and Wales	Combined County Boroughs
<i>Deaths.</i>			
All causes	10·57	11·7	11·8
Typhoid and para- typhoid fevers ...	·00	·00	·00
Smallpox	—	—	—
Measles	·03	·03	·04
Scarlet fever ...	·02	·01	·01
Whooping cough ...	—	·04	·04
Diphtheria	·03	·08	·09
Influenza	·07	·18	·16
<i>Notifications.</i>			
Smallpox	—	—	—
Scarlet fever ...	2·50	2·96	3·19
Diphtheria	1·51	1·60	1·96
Enteric fever ...	·03	·04	·04
Erysipelas	·37	·42	·48
Pneumonia	·88	1·15	1·36

Notifiable infectious disease.

Exclusive of cases occurring in the port sanitary district, 2,880 cases of infectious disease including tuberculosis were notified in the city in 1935, 168 less than last year. Deaths from these diseases also fell by 49 to 595. These figures give a general attack rate of 6·98 per 1,000 population and a zymotic death rate of ·13 compared with 7·43 and ·16 respectively in 1934. The year was noteworthy also for Bristol's satisfactory position, as disclosed by the comparative table above, particularly with the combined county borough rates. With the single exception of the scarlet fever death rate, the local death and case rates are markedly lower.

The decline in the attack rate for infectious disease was due to fewer cases of diphtheria (125 less than last year), erysipelas (11 less), scarlet fever (11 less), cerebro spinal fever (5 less) poliomyelitis (5 less), influenzal pneumonia (9 less), malaria (2 less), encephalitis lethargica (3 less), puerperal pyrexia (4 less), ophthalmia neonatorum (10 less), pulmonary tuberculosis (24 less), and non-pulmonary tuberculosis (9 less). These decreases were offset by increases in enteric fever (10 more), primary pneumonia (31 more), dysentery (4 more), and puerperal fever (5 more).

Other important facts to be noted with regard to the prevalence of infectious disease in 1935 are :—

- (1) Fifty six per cent. of the infectious cases were of children below the age of 15 years, and thirty seven per cent. of school age (5—15 years). The corresponding figures last year were 61 per cent. and 58 per cent.
- (2) Sixty six per cent. of all notifiable infectious disease excluding tuberculosis were isolated in hospital, two per cent. less than last year. This figure relates only to cases where diagnosis was confirmed in hospital.
- (3) There were no notifications during the year of smallpox, cholera, plague, typhus fever, relapsing fever, continued fever, or polio-encephalitis.

Tables follow giving details of all notifiable diseases by age groups, quarters and districts ; also the numbers and percentage removed to hospital, and mortality, and in the reports of the medical superintendents of the city hospitals, sanatoria, etc., will be found further observations on the type of disease nursed. Puerperal fever and ophthalmia neonatorum are specially dealt with in the report dealing with maternity and child welfare.

Notifications of infectious disease in registration sub-districts and in quarters. (Port cases excluded).

1934	NOTIFIABLE DISEASES		TOTAL CASES NOTIFIED IN EACH DISTRICT.										NOTIFIED IN EACH QUARTER				1935	Port Cases
	Total	Attack rate per 1,000	Ashley	Bristol South	Bristol Central	Clifton	St. George	Stapleton	Westbury-on-Trym	Public Insts	1st	2nd	3rd	4th	Total	Attack rate per 1,000		
	
	
	750	1·83	87	138	63	65	107	55	62	48	287	124	105	109	625	1·51	..	
	165	·40	22	33	13	13	28	21	10	14	44	43	29	38	154	·37	..	
	1,044	2·54	187	257	53	58	235	156	61	26	358	206	193	276	1,033	2·50	1	
	
	4	·01	1	7	..	1	1	1	2	1	3	..	7	4	14	·03	..	
	
	
	17	·04	2	3	1	1	3	1	1	..	2	6	1	3	12	·02	..	
	8	·02	1	..	..	..	..	..	..	1	2	..	..	1	3	·007	..
	303	·74	49	95	33	23	69	32	23	10	139	74	40	81	334	·81	..	
	39	·09	4	8	1	1	9	2	2	3	15	7	1	7	30	·07	1	
	3	·007	1	1	..	..	..	..	4	1	4	1	2	5	12	·02	2
	8	·02	12	4	1	..	..	2	4	1	..	..	1	2	1	·002	7
	11	·03	..	3	1	..	3	..	1	..	2	1	3	2	8	·01	..	
	
	5	·01	1	3	3	..	..	..	..	3	5	1	2	2	10	·02	1*
	41	·10	4	5	2	7	6	1	..	12	11	5	8	13	37	·08	..	
	35	·09	3	4	4	..	7	4	2	1	3	5	12	5	25	·06**	..	
(33)	471	1·15	52	130	44	33	99	55	32	2	112	109	131	95	447	1·08	3	
(11)	11	·03	..	6	1	2	2	1	2	..	3	1	4	6	14	·03	..	
(2)	32	·08	3	17	3	1	6	3	1	..	14	10	5	5	34	·08	..	
(3)	10	·02	1	1	1	1	4	3	..	..	3	4	4	..	11	·02	..
(1)	34	·08	3	3	4	1	5	3	1	..	7	7	3	3	20	·04	..	
(7)	57	·14	11	14	5	6	6	7	7	..	18	15	12	11	56	·13	..	
(57)	3,048	7·43	432	733	232	213	591	347	211	122	1,032	619	563	667	2,881	6·98	14	
	TOTALS	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Smallpox.

No case of smallpox was reported in Bristol during the year 1935, and the city has remained free of this disease since two cases of the mild type occurred in 1929. The medical officers of the department are available for consultation in doubtful cases, and co-operation in this way is welcomed. Four difficult cases were seen with the doctor in attendance during the year. One case was diagnosed as fairly severe chicken pox, one as early chicken pox, the third as an impetiginous infection, and the fourth as urticaria papulosa.

Vaccination.

There has been no change in the local arrangements described in my report for 1930 for dealing with vaccination. Since 21st May, 1935 the appointment of vaccination officer has been merged with that of the chief clerk of the public health department, viz., Mr. C. W. M. Vincent, following staff reorganisation.

The only other changes in personnel during the year were the appointments of Dr. G. L. Foss and Dr. H. J. Newlands in the place of the late Dr. E. V. Foss and Dr. H. Grey, retired.

The city is divided into eight vaccination districts, a public vaccinator being appointed for each district, separate public vaccinators are also appointed for Southmead Hospital, and Eastville and Stapleton Institutions.

The various districts and public vaccinators are as follows :—

St. George	Dr. G. L. Foss
St. Philip & Jacob ...	Dr. H. Hope Scott
Ashley	Dr. J. A. L. Roberts
Stapleton	Dr. H. J. Newlands
Clifton	Dr. E. U. Bartholomew
Central	Dr. I. Williams
Bristol South	Dr. G. S. Mundy
Westbury-on-Trym ...	Dr. S. B. Green

The following table summarises the work of the public vaccinators and the vaccination officers for the last three years :—

Year	No. of births registered	Certificates of :				Persons successfully vaccinated at the cost of the rates (year ended 30th Sept.)			
		Primary vaccinations (all ages)	Statutory declarations	Post-pone-ments	Insus-ceptibility	Successful primary vaccination.			Re-vaccina-tions.
						Under 1 year	Over 1 year	Total	
1935	6,045	2,705	3,085	92	22	1,044	1,495	2,539	51
1934	6,000	2,930	3,047	154	15	845	1,554	2,399	100
1933	5,860	2,213	2,982	159	17	699	1,038	1,737	54

In addition during the year 1935, 36 re-vaccinations were registered by the vaccination officers. No contacts of cases of smallpox were vaccinated or re-vaccinated under the Public Health (Smallpox) Regulations, 1917.

Exemptions on statutory declarations in 1935 (3,085) are equivalent to 51 per cent. of the births registered. The poor results obtained for the expenditure involved (£994 10s. in 1934/35) suggest that the present cumbersome system of administering the vaccination Acts should be reviewed.

Diphtheria (including Membranous Croup).

Year	No. of cases.				Total	No. of deaths.				Total	Fatality (case mortality %)
	Quarters.					Quarters.					
	1	2	3	4		1	2	3	4		
1926	231	171	135	174	711	15	8	11	9	43	6·0
1927	218	140	120	175	653	16	4	4	7	31	4·7
1928	158	127	118	196	599	3	4	3	7	17	2·8
1929	201	183	227	521	1,132	17	7	15	23	62	5·5
1930	600	246	250	388	1,484	24	3	4	10	41	2·8
1931	271	168	193	196	828	10	5	9	7	31	3·7
1932	149	69	98	227	533	6	3	6	7	22	4·1
1933	137	140	167	195	639	9	2	5	6	22	3·4
1934	182	135	144	290	751	5	3	2	6	16	2·1
1935	287	124	105	109	625	3	4	1	4	12	1·9

Rate per 1,000 population.

	Bristol	England and Wales	Combined County Boroughs
Attack rate ...	1.51	1.60	1.96
Death rate ...	.03	.08	.09

The number of diphtheria cases reported decreased by 125 compared with last year, the number of deaths were four less, and the case mortality fell from 2.1 per cent. to 1.9 per cent. This compares with an average fatality percentage of 3.2 for the preceding five years, and 5.1 per cent. for the period 1925/1929.

Full credit for this decline in fatality may be attributed to modern hospital treatment as no less than 91 per cent. of the total cases notified were admitted to hospital for treatment, a fact which emphasises the wisdom of prompt removal to hospital in cases of diphtheria.

Fifty-one per cent. of the total cases notified occurred amongst children of school age, and 19 per cent. amongst children under five years of age; 91 per cent. of the fatal cases were children under 15 years of age, and 58 per cent. under five years of age.

Diphtheria immunisation.

The most effective weapon in combating the disease is the protection afforded by the safe and efficient method of immunisation in early childhood by means of toxoid.

As stated in my report for 1930 the Health Committee have adopted this method and the course is available free of charge for all children of school age and under. By arrangement with the Education Committee inoculations are given by the school medical staff at the schools and a weekly clinic is also held at 30 Portland Square (the central school clinic). Sessions are also held at the maternity and child welfare clinics in the outlying districts, the Health Committee being responsible for all expense.

The following table shows the number immunised in 1935 at schools and centres (excluding the city isolation hospital at Ham Green) particulars of which are given in the report of the resident medical superintendent).

1934		Education department	M. & C.W. department	Total 1935
1,657	No. received full course ...	2,673	194	2,867
1,514	Observed after Schick testing	2,643	121	2,764
1,486 (98·1%)	Found negative after observation	2,571	121	2,692 (97·3%)

Twenty-nine children were notified as cases of diphtheria in 1935 subsequent to receiving immunising injections, but no significance must be attached to this figure, as several had not had a full course, and others who had a full course had not been subsequently tested.

However, nine cases of positive swabs occurred in children who had been tested and declared negative subsequent to immunisation.

The cases were as follows :—

Patient	Age		Immunising injections (dates)			Tested and found negative	Diphtheria onset 1935	Character of disease
	M.	F.	1st	2nd	3rd			
M.H.	11	...	5/ 2/31	26/ 2/31	16/ 3/31	24/ 9/31	4/ 1/35	Mild
J.H.	...	11	8/ 4/32	12/ 5/32	3/ 6/32	4/11/32	22/ 1/35	Moderate
M.P.	...	14	1/ 3/30	22/ 3/30	12/ 4/30	7/ 2/31	? / 2/35	Non-Clinical
W.T.	9	...	6/ 3/34	23/ 3/34	27/ 4/34	1/ 6/34	3/ 3/35	Very slight
M.H.	11	...	25/ 1/30	15/ 2/30	8/ 3/30	5/ 7/30	7/ 4/35	Clinically follicular tonsillitis
V.H.	15	...	20/10/32	12/11/32	1/12/32	27/ 7/33	? / 4/35	Mild
E.C.	5	...	7/10/33	28/10/33	18/11/33	28/ 4/34	10/ 5/35	Mild
E.U.	...	6	29/ 5/34	7/ 9/34	30/10/34	15/ 1/35	12/ 7/35	Carrier
S.L.	...	6	24/ 4/34	15/ 5/34	18/ 6/34	4/10/34	7/10/35	Moderately severe

Up to the end of 1935, 10,879 children, ages 1—15, have been immunised and tested negative, and of these, nine cases of positive swabs occurred in 1935. This is equivalent to an incidence rate of .82 per thousand compared with 417 cases of diphtheria amongst approximately 74,907 children, in the same age group who had not been immunised, an incidence rate of 5.5 per thousand.

Supply of diphtheria antitoxin.

The local arrangements under which supplies of diphtheria antitoxin are available to medical practitioners were detailed in my 1932 report. The scheme, in addition to facilitating the immediate application of antitoxin in diphtheria and providing free issues to patients unable to pay for it, ensures a constant supply of fresh antitoxin at all times.

Erysipelas.

Rate per 1,000 population.

	Bristol	England and Wales	Combined County Boroughs
Attack rate ...	.37	.42	.48

One hundred and fifty four (154) cases of erysipelas were reported during the year, of which 80 per cent. were adults over 25 years of age. Forty six per cent. of the cases were removed to hospital for treatment. Four deaths occurred, all aged 15 and upwards, giving a case mortality of 2.5 per cent. compared with 6.1 per cent. last year.

The attack rate for the year was .05 per 1,000 population below that for England and Wales (.42). The death rate was .009.

Scarlet Fever.

Year	No. of cases				Total	No. of deaths				Total	Fatality (case mortal- ity %)
	Quarters					Quarters					
	1	2	3	4		1	2	3	4		
1926	359	181	199	212	951	6	2	—	1	9	0·9
1927	245	297	329	562	1,433	...	...	1	1	2	0·1
1928	332	276	220	383	1,211	...	1	...	2	3	0·25
1929	337	211	202	358	1,108	1	3	2	2	8	0·7
1930	281	177	145	208	811	2	...	...	...	2	0·25
1931	127	100	103	123	453	1	...	1	...	2	0·4
1932	100	104	106	328	637	1	...	...	2	3	0·5
1933	196	240	131	203	770	2	1	1	...	4	0·5
1934	213	170	203	458	1,044	...	1	...	...	1	0·09
1935	358	206	193	276	1,033	4	3	2	—	9	0·8

Rate per 1,000 population.

		Bristol	England and Wales	Combined County Boroughs
Attack rate	...	2·50	2·96	3·19
Death rate	...	·02	·01	·01

The year under review was again noteworthy for the large number of cases of scarlet fever. Altogether 1,033 notifications were received, compared with 1,044 in 1934, and only 770 in 1933. This confirms the suggestion made previously that we are on the upward trend of a cycle for this disease which from past records will take about ten years to complete a return to anything like the low level of 1931 (453).

Nine deaths occurred, compared with one in 1934, the highest number recorded since 1926.

The case mortality ·8 per cent. was also the highest since 1926, and compares with ·09 in the previous year. Eight of the deaths were of children under 15 years. Sixty eight per cent. received hospital treatment.

The attack rate for England and Wales for 1935 fell by ·80 per 1,000 population, with a death rate of ·01. Compared with national rates, Bristol's attack rate was ·46 per 1,000 below that for the country and the death rate ·01 higher.

Enteric fever.*Rate per 1,000 population.*

		Bristol	England and Wales	Combined County Boroughs
Attack rate	...	·03	·04	·04
Death rate	...	·00	·00	·00

Fourteen cases of enteric fever were notified in the city during the year including one paratyphoid A infection, and one paratyphoid B. This is ten more than last year. The cases, of which 13 were confirmed bacteriologically, were individualistic in distribution, and there was no evidence ascribing spread of the disease to any preventable cause. There were no deaths. Eleven cases were removed to hospital for treatment.

The attack rate for Bristol was ·01 per 1,000 population below that recorded for England and Wales.

Dysentery.

Attack rate	...	·02 per 1,000 population.
Death rate	...	·002 „ „ „

Twelve (12) cases of this disease were notified during the year, four more than last year. Six occurred in private homes, and six in three different institutions, four being in an institution for mental defectives. There was one death from the disease.

Infectious diseases of the nervous system.

Cerebro spinal fever.

Attack rate ... ·02 per 1,000 population.

Death rate ... ·01 " " "

During the year 12 cases of this disease were notified, a decrease of five on the previous year, and there were seven deaths compared with fourteen in 1934, giving a case mortality of 58 per cent.

All the cases were removed to hospital, and six were confirmed bacteriologically. Eight cases and three deaths occurred in the first and second quarters of the year. Prior to 1931, the average annual number of cases of this disease in the previous twelve years was just over five; since that year the average number has been 15 cases each year. There was no instance in 1935 of more than one case occurring in a house or institution. Eight (or 66 per cent.) of the cases were children under 15 years of age.

Poliomyelitis.

Attack rate ... ·007 per 1,000 population.

Death rate ... ·002 " " "

Three (3) cases of anterior poliomyelitis were notified during the year, and two were removed to hospital for treatment. This is five less than the number notified in 1934. Once case was under 15 years of age, the other two cases being over 25 years of age. There was one death (aged 69).

Encephalitis lethargica.

Attack rate ... ·019 per 1,000 population.

Death rate ... ·007 " " "

Eight (8) cases and three deaths from this disease were reported during the year, compared with eleven cases and twelve deaths in 1934. Two cases occurred in children under 15 years of age, the remainder being over that age. All the cases were acute, and six were treated in hospital.

Non-notifiable infectious diseases.

1934		QUARTERS				1935
		1st	2nd	3rd	4th	
1,752	CASES—					
354	Measles ...	304	543	333	1,381	2,561
1,639	German measles	1,582	1,476	68	18	3,144
50	Whooping cough	81	79	47	60	267
1,227	Mumps ...	15	8	2	6	31
	Chicken-pox ...	392	655	216	758	2,021
5,022	Total ...	2,374	2,761	666	2,223	8,024
12	DEATHS—					
—	Measles ...	1	3	5	5	14
18	German measles	—	—	—	—	—
—	Whooping cough	—	—	—	—	—
—	Mumps ...	—	—	—	—	—
—	Chicken-pox ...	—	—	—	—	—
30	Total ...	1	3	5	5	14

The only figures available relative to the number of cases of non-notifiable infectious disease are those obtained from school cards and from returns of cases discovered in the homes by nurses and health visitors.

Whooping cough and mumps show decreased numbers compared with 1934, but increases are recorded in the case of measles, german measles, and chicken pox.

Measles.

	Death rate per 1,000 population
Bristol	·03
England and Wales ...	·03
Combined County Boroughs	·04

Altogether 2,561 cases were reported to the department during the year—mainly in the fourth quarter—as compared with 1,752 last year, and 2,403 in 1933. The number of deaths was 14, of whom 12 were under five years of age including three between two and five years.

Broncho pneumonia was as usual the commonest complication associated with measles. 106 cases of measles, 30 of measles and broncho pneumonia, and 19 of measles and pneumonia were admitted to Ham Green Hospital from homes where the facilities for nursing were inadequate. Six cases proved fatal.

German measles.

These cases increased considerably during the year, the disease being very prevalent during the first six months. 3,144 cases were reported, against 354 in 1934. There were no deaths.

Whooping cough.

	Death rate per 1,000 population.
Bristol	·00
England and Wales ...	·04
Combined County Boroughs ...	·04

There was a marked decrease in the number of cases of whooping cough reported in the city, only 267 coming to our knowledge during the year. There were no deaths. The corresponding figures for the previous year were 1,639 cases, and 18 deaths. Thirteen (13) cases were admitted to hospital.

Mumps.

As in 1934 a very marked decrease in the number of cases is noted, only 31 cases being reported. There were no deaths.

Chicken-pox.

The case incidence of chickenpox for the second year in succession, showed a considerable increase compared with the previous year, 2,021 cases being reported against 1,227 in 1934. The disease was more or less prevalent throughout the year.

Work of the home nurses.

Three fever trained nurses are employed to visit homes in connection with infectious diseases. These nurses visit all cases of notifiable and non-notifiable infections, and their duties were described in my report for 1930.

The following table gives the number of cases visited by these nurses during 1935 :—

1934	Disease	1935
1,052	Scarlet fever	1,033
742	Diphtheria	726
6	Enteric fever	13
12	Encephalitis lethargica	8
7	Anterior poliomyelitis	2
—	Polio encephalitis	—
18	Cerebro-spinal fever	13
2	Malaria	2
6	Dysentery	8
156	Erysipelas	141
1,672	Measles	1,987
1,630	Whooping cough	266
1,003	Chicken pox	1,749
42	Mumps	26
164	German measles	2,538
6,512	Total cases	8,512

Influenza and respiratory diseases (excluding pulmonary tuberculosis).*Deaths at ages and in quarters.*

1934 Rate per 1,000	Deaths	1935 Rate per 1,000	Under 1	1- 5	5- 15	15- 25	25- 45	45- 65	65- 75	To- tal 1935	Quarters			
											1st	2nd	3rd	4th
·04	Influenza ...	·08	2	2	...	...	6	7	15	32	14	8	3	7
·27	Bronchitis ...	·26	3	1	...	...	3	25	75	107	34	27	12	34
·56	Pneumonia ...	·54	25	18	6	2	34	50	89	224	78	43	26	77
·21	Other respiratory diseases ...	·23	...	...	1	7	8	24	56	96	38	17	19	22
1·08	Total ...	1·11	30	21	7	9	51	106	235	459	164	95	60	140
·74	NOTIFICATIONS Primary pneumonia ...	·81	12	46	36	26	81	85	48	334	139	74	40	81
·09	Influenzal pneumonia ...	·07	1	1	6	3	7	10	2	30	15	7	1	7
·83	TOTAL ...	·88	13	47	42	29	88	95	50	364	154	81	41	88

Rate per 1,000 population.

	Bristol	England and Wales	Combined County Boroughs
Pneumonia— Attack rate ...	·88	1·15	1·36
Influenza— Death rate ...	·08	·18	·16

The group of diseases included in the table above showed a slight increase in the number of deaths, the increase being mainly due to influenza deaths which rose from 18 to 32. The deaths from these diseases represent 10·3 per cent. of the total compared with 10 per cent. last year. This position is similarly reflected in the incidence of pneumonia notifications.

The death rate rose by ·03 per 1,000—influenza by ·04—and the attack rate for primary and influenzal pneumonia notifications remained at last year's figure (·83). The pneumonia attack rate was ·27 per 1,000 population below that for the country as a whole and the influenza death rate ·10 less.

If necessary, wards are set aside at Ham Green Hospital for the treatment of pneumonia where the home facilities for nursing are inadequate.

As usual the mortality from respiratory diseases was mainly amongst middleaged and elderly people—74 per cent. of the total deaths being persons over 45 years of age. This ratio is less marked in pneumonia, the number of deaths in this age group falling to 66 per cent., mainly because of the pneumonia mortality amongst infants under five years of age, which accounted for 18 per cent. of the total pneumonia deaths.

Heart disease.*Deaths, death-rates and percentage of age groups.*

	1931	1932	1933	1934	1935	Age groups, 1935.			
						—15	—45	—65	+65
No. of deaths	996	1,060	1,156	1,100	1,098	4	54	244	796
Death rate per 1,000 popula- tion ...	2·49	2·62	2·82	2·68	2·66	% ·4	4·9	22·2	72·5

There were 1,098 deaths certified from heart disease during the year, two less than last year. As usual, more deaths were attributed to this disease than any other in the list of specified causes of death, the ratio being approximately one in four of the total deaths registered. The death rate was 2·66 per 1,000 population compared

with 2·68 in 1934, a fall of ·02 per 1,000. The report last year drew attention to the relation between deaths from heart disease and respiratory disorders, particularly influenza.

No less than 72·4 per cent. of the deaths classified to heart disease occurred amongst aged people over 65 years, or nearly two per 1,000 of the total death rate (10·79).

Cancer.

** Deaths, death-rates and percentage in age groups.*

1934		1935		Age Groups.				
				—15	—25	—45	—65	+ 65
650	No of deaths ...	683	Male ...	2	2	10	123	165
	Death rate per 1,000 population ...		Female	—	1	35	147	198
1·58		1·65	% ...	·3	·5	6·6	39·4	53·2

** Registrar General's figures.*

Cancer which again ranks as the second greatest cause of mortality was responsible for 683 or 15·2 per cent. of the total deaths registered in Bristol during the year, an increase of 33 over the number recorded last year. 381 occurred amongst females and 302 in males, the increase in female deaths (28) being markedly in excess of the increase in males (5). The table above illustrates the fatality percentage in age groups—92 per cent. of the deaths occurring in persons over 45 years of age. The death rate for the disease increased by ·07 to 1·68 per 1,000 and is now ·36 per 1,000 higher than it was ten years ago (1·32) while the percentage of cancer deaths to total deaths have risen in the same period by five per cent.

An opportunity has recently occurred to compare last year's local cancer deaths by site with the average deaths in the years 1922/1927. The groups compared were :—

	1922/27 average	1935	% increase
A. Buccal cavity ...	27	30	11·0
B. Pharynx, oesophagus, stomach, liver and annexa ...	141	210	49·0
C. Peritoneum, intestines, rectum and colon ...	104	161	54·8
D. Female genital organs ...	60	63	5·0
E. Breast ...	60	73	21·6
F. Skin ...	4	7	75·0
G. Other or unspecified organs	87	128	47·0

I append a report prepared by the radium officer (Sylvia B. Wigoder, M.A., M.D., Ph.D., D.M.R.E.) on the work of the national radium centre established at the Bristol Royal Infirmary for Bristol and the south west of England.

“ There are four beds set aside at this hospital for radium patients, increasing as required. The average daily occupations in 1935 was eleven and the duration of stay in hospital, 12 days. The radium loaned by the Radium Commission to the centre amounts to 499·28 mgms. In addition the hospital owns 200 mgs. The amount of radon used during 1935 amounted to 1,783 mcs.

During the year, the number and type of cases dealt with at the centre were as follows :—

Type	Referred.			Treated.		
	Bristol	Not Bristol	Total	Bristol	Not Bristol	Total
Malignant ...	75	134	209	62	97	159
Non-malignant	49	35	84	39	22	61
Rodent ulcers	23	27	50	20	25	45
Totals ...	147	196	343	121	144	265

This information is amplified as regards malignant cases in the following table which indicates the sex, age groups and survivals of all such patients treated at the centre during the past three years.”

Regions	Year	Referred	Treated	Sex (of treated cases)	Age groups.									Alive at end of 1935		Alive at end of 1 year		Alive at end of 2 years	
					0 / 20	20 / 30	30 / 40	40 / 50	50 / 55	55 / 60	60 / 65	65 / 70	Ov'r 70	No.	Per- cent- age	No.	Per- cent- age	No.	Per- cent- age
Mouth and tongue	1933	17	12	M. 11 F. 1	—	—	—	—	1	2	4	1	3	15	75%	7	58%	6	50%
	1934	17	10	M. 7 F. 3	—	—	—	1	—	2	1	1	3			5	50%	—	—
	1935	21	20	M. 16 F. 4	—	—	—	1	1	—	3	5	7			—	—	—	—
Upper air passages	1933	9	8	M. 5 F. 3	—	—	1	1	1	1	—	—	1	6	46%	5	62%	3	37%
	1934	11	10	M. 7 F. 3	—	—	—	—	1	2	1	3	1			5	50%	—	—
	1935	16	13	M. 7 F. 6	—	—	2	1	2	3	2	1	1			—	—	—	—
Breast	1933	17	8	M. 0 F. 8	—	—	—	1	1	2	3	—	1	16	84%	5	62%	2	25%
	1934	29	14	M. 0 F. 14	—	—	—	4	1	2	3	3	1			8	57%	—	—
	1935	29	19	M. 0 F. 19	—	—	2	4	3	3	1	1	5			—	—	—	—
Female genital	1933	41	33	F. 33	—	—	4	11	5	7	3	—	3	32	97%	17	52%	10	30%
	1934	34	30	F. 30	—	—	3	8	6	6	3	2	2			22	73%	—	—
	1935	40	33	F. 33	—	—	3	7	5	4	6	4	4			—	—	—	—
Rectum and anus	1933	4	0	M. 0 F. 0	—	—	—	—	—	—	—	—	—	2	100%	—	—	—	—
	1934	12	3	M. 3 F. 0	—	—	—	—	1	—	1	—	1			1	33%	—	—
	1935	7	2	M. 1 F. 1	—	—	—	—	—	—	1	—	—			—	—	—	—
Lip	1933	18	15	M. 14 F. 1	—	—	—	—	1	—	4	4	5	21	95%	13	87%	10	66%
	1934	16	15	M. 15 F. 1	—	—	—	—	—	1	4	2	8			10	66%	—	—
	1935	24	22	M. 21 F. 1	—	—	—	2	3	1	2	5	8			—	—	—	—
Skins	1933	12	8	M. 6 F. 2	—	—	—	—	1	2	1	2	—	10	100%	7	87%	5	62%
	1934	10	10	M. 8 F. 2	—	—	—	3	1	—	—	1	3			8	80%	—	—
	1935	13	10	M. 8 F. 2	1	—	1	—	—	—	1	1	5			—	—	—	—
General	1933	25	15	M. 13 F. 2	1	—	1	2	2	2	2	1	2	26	65%	6	40%	3	20%
	1934	52	31	M. 26 F. 5	—	—	—	3	2	5	5	7	4			14	45%	—	—
	1935	59	40	M. 31 F. 9	—	—	—	2	2	5	8	9	5			—	—	—	—
Totals	1933	143	99	M. 49 F. 50	1	—	1	3	6	7	12	8	11	128	80%	60	60%	39	39%
	1934	181	123	M. 66 F. 57	—	—	—	6	4	10	12	14	20			73	59%	—	—
	1935	209	159	M. 84 F. 75	1	—	1	5	5	9	15	22	26			—	—	—	—

TUBERCULOSIS.

COMPARATIVE RATES PER 1,000 POPULATION.					
City of				Per 1,000 population all causes	
				Case rate	Death rate
Birmingham	...	...	...	1·17	0·79
Liverpool	...	...	...	2·54	1·08
Manchester	...	...	...	1·68	1·04
Leeds	...	...	...	1·46	·89
Bristol	...	...	...	1·55	·80
Bradford	...	...	...	1·06	·70
West Ham	...	...	...	1·5	·91
Nottingham	...	...	...	1·07	·98
Portsmouth	...	...	...	1·37	·84
Cardiff	...	...	...	2·03	1·19
Plymouth	...	...	...	1·33	·70

Comparative statistics.

The tuberculosis case and death rates for Bristol last year are shown compared with similar rates for ten industrial towns of comparable dimensions. Bristol occupies much the same position in this table as in former years. The local case rate declined by ·09 to 1·55 per 1,000 population and the death rate by ·06 to ·80 per 1,000 population. Similar reductions are noticeable in nearly all the towns quoted.

1934	STATISTICS	Pulmonary	Non-pulmonary	Total 1935
674	New cases	494	150	644
3,859	Total on Register... ..	2,681	899	3,580
3,291	Dispensary patients	2,393	701	3,094
7,816	Dispensary attendances	—	—	7,936
531	Sanatoria discharges	394	114	508*
353	Deaths	293	36	329

* Excluding observation cases.

Age periods				New cases				Deaths			
				pulmonary		non-pulmonary		pulmonary		non-pulmonary	
				M.	F.	M.	F.	M.	F.	M.	F.
0	...	...	...	—	—	—	—	—	—	—	—
1	...	...	...	2	4	17	15	1	3	8	8
5	...	...	...	18	8	19	14	1	1	2	—
10	...	...	...	9	5	11	9	2	2	1	—
15	...	...	...	28	23	5	11	8	9	1	1
20	...	...	...	36	55	6	7	18	27	1	2
25	...	...	...	62	49	7	14	36	36	1	1
35	...	...	...	49	28	2	7	30	25	1	1
45	...	...	...	34	21	4	—	21	19	1	3
55	...	...	...	28	16	1	1	30	13	1	2
65 and upwards	...	...	...	13	6	—	—	5	6	—	1
Totals	...	...	...	279	215	72	78	152	141	17	19
Ratio of non-notified deaths				...	...	...	...	1-17	1-8·3	1-4·3	1-3·8

Cases.

During the year under review 644 fresh cases of tuberculosis came to the knowledge of the department, a decrease of 30 on last year. Of these, 585 were duly notified under the regulations. Pulmonary cases numbered 494 or 76·7 per cent. of the total. With the exception of 1933 when there was an increase of 34 cases the number of cases has been steadily falling since 1918. There was no instance of wilful neglect or refusal to notify cases of tuberculosis. The average annual number notified in Bristol during the past five years is less than half the number registered in the war years, viz.,

Average	Pulmonary tuberculosis.	Other forms of tuberculosis.
1914/1918 ...	1,238	307
1931/1935 ...	489	138

Sanatorium admissions decreased during the year by 50 to 733, with the exception of four cases all were accommodated in local sanatoria. The total number of names on the tuberculosis register on December 31st was 3,580, a decrease of 279 on the number registered on the same date last year and 3,094 of these cases were under supervision at the tuberculosis dispensaries. Thirty seven grants of milk (one quart per day) were made to tuberculous patients on the recommendation of the tuberculosis officer.

Deaths.

The number of deaths from all forms of tuberculosis fell by 24 to 329, including 293 cases of respiratory tuberculosis. These include 35 deaths of persons whose tubercular condition had not previously been notified—26 pulmonary cases: nine males and seventeen females and 9 non-pulmonary cases, 4 males and 5 females giving a ratio of non-notified tuberculous deaths to total tuberculous deaths compared with last year of :—

	Males.		Females.	
	1935	1934	1935	1934
Pulmonary ...	1 in 17	1 in 19	1 in 8·3	1 in 13·6
Non-pulmonary	1 in 4·25	1 in 2·4	1 in 3·8	1 in 2·3

Public Health (Prevention of Tuberculosis) Regulations, 1925.

No case requiring action under these regulations came to the notice of the department during the year.

Public Health Act, 1925. Section 62.

The necessity of applying to a court for an order under this Act did not arise during the year.

Boarded-out tuberculosis cases.

The Public Assistance Committee co-operates with the health department in the boarding-out of patients suffering from tuberculosis, and this co-operation has proved of great benefit to patients who have completed a period of treatment in sanatoria and are homeless. Suitable accommodation is found by the tuberculosis officer in cases where the patient cannot be accommodated in the homes of relations or friends, and all addresses are visited by the tuberculosis nurses. The relieving officer arranges for the payment of agreed board and lodging terms. During 1935, arrangements were made to board out nine patients ; and at the end of the year the number of patients boarded out under this scheme was 14.

The tables which follow give particulars of cases and deaths from tuberculosis in the area (including port cases) by annual totals for the years 1925-1935 ; deaths classified according to occupations with percentage to total deaths ; sanatoria admissions and discharges ; and the extent of residential treatment during the year. In addition there is the report of the tuberculosis officer which details in tabular form particulars of the work performed at the dispensaries and in the homes by the staff employed in this section, including returns showing the number of cases examined and treated and the immediate results of treatment of patients discharged from residential institutions during the year.

Care and after-care of tuberculosis cases.

Care and after-care work in Bristol is carried out by a voluntary committee consisting of representatives of the Corporation, Insurance Committee, Public Assistance Committee and various other organisations of a civic and social character. This committee works in close co-operation with the public health department. I am indebted to the hon. secretary (Mr. C. L. Bryant) for the following notes on the work during the year.

Nature of assistance granted.

Medical treatment alone is not sufficient for tuberculous patients ; assistance is frequently required both before and after treatment in a sanatorium, and to render help where possible in such cases is one of the functions of a care committee. Grants of clothing, footwear, bedsteads and bedding, financial assistance for various purposes such as : payment of travelling expenses, rent, assistance in the home, etc., enquiries and help where possible in respect of housing conditions. These are some of the ways in which the committee renders assistance.

Many of the applications for clothing and footwear are from patients who have been recommended a course of sanatorium treatment but are unable to provide all the clothing, etc., required. The provision of bedsteads and bedding to enable patients to sleep alone is well worth while as it acts as a preventive measure to other members of the family.

Provision of employment for patients—workshop scheme.

The most difficult problem in connection with the after-care of tuberculous persons is the all important task of finding or providing

suitable employment. It is no easy matter for semi-disabled patients to obtain for themselves occupations of a suitable character.

In an endeavour to deal with this problem the Voluntary Care Committee established in 1927 a workshop at the rear of the dispensary in Portland Square where three patients were engaged in the manufacture of portable wooden buildings. In 1933 through the generosity of certain citizens a larger and more suitable workshop was erected at Southmead and presented to the committee. This new workshop has provided employment for an average of eight male patients, who are engaged in the manufacture of garden sheds, garden shelters, greenhouses, garages, garden frames, dog kennels etc. The total sales for the year ended 31st December, 1935 amounted to £2,200 and £880 was paid in wages for the same period.

It must be remembered that the persons employed are "sub-standard"; were they fit to compete in the open labour market the problem of finding them "sheltered occupations" would not arise. It is apparent that their physical condition is such that in performing a given task considerably longer time is required than by a healthy workman.

A scheme of this nature cannot be expected to be entirely self-supporting and so far the workshop has had to be subsidised from the Care Committee's funds to the extent of roughly £1 per week per patient employed.

Kiosk.

In November, 1934, with the consent of the Health Committee, a kiosk was established at Ham Green sanatorium for the sale of tobacco, cigarettes, stationery, wrapped confectionery, and sundry other articles approved by the medical superintendent, to patients, staff and visitors.

The sales for 14 months ended 31st Dec. 1935 amounted to £1,019, and a net profit of £41 19s. was realised. Of the latter sum £30 has been transferred to the Care Committee's general account thus being made available for the Committee's other activities on behalf of tuberculous patients.

In addition to finding employment for an ex-sanatorium patient the kiosk is providing a much needed service at the institution.

NOTIFICATIONS AND DEATHS FROM PULMONARY AND OTHER
FORMS OF TUBERCULOSIS, 1925-1935.

Year	Cases, Deaths, with attack and death rate per 1,000	Pulmonary tuberculosis	Other forms of tuberculosis
1925	Notifications etc. ... Deaths	742 (1·92) 367 (0·95)	173 (0·44) 98 (0·25)
1926	Notifications, etc. ... Deaths	754 (1·94) 374 (0·97)	195 (0·50) 60 (0·15)
1927	Notifications, etc. ... Deaths	783 (2·28) 397 (1·03)	180 (0·46) 67 (0·17)
1928	Notifications, etc. ... Deaths	704 (1·80) 338 (0·86)	177 (0·45) 51 (0·13)
1929	Notifications, etc. ... Deaths	620 (1·58) 402 (1·02)	177 (0·45) 63 (0·16)
1930	Notifications, etc. ... Deaths	610 (1·55) 396 (1·01)	106 (0·27) 57 (0·14)
1931	Notifications, etc. ... Deaths	613 (1·53) 358 (0·89)	152 (0·38) 48 (0·12)
1932	Notifications, etc. ... Deaths	506 (1·25) 294 (0·73)	168 (0·42) 40 (0·10)
1933	Notifications, etc. ... Deaths	540 (1·34) 336 (0·82)	168 (0·41) 54 (0·13)
1934	Notifications, etc. ... Deaths	505 (1·23) 301 (0·73)	169 (0·41) 52 (0·12)
1935	Notifications, etc. ... Deaths	494 (1·20) 293 (0·71)	150 (0·36) 36 (0·09)

DEATHS FROM ALL FORMS OF TUBERCULOSIS OCCURRING IN 1935
CLASSIFIED ACCORDING TO OCCUPATION.

Occupation	Deaths	
	Number	Percentage of total deaths
House workers ...	80	24·32
Labourers & dockers	34	10·33
Shop assistants, etc.	21	6·38
Outdoor workers ...	6	1·82
No occupation ...	13	3·95
Clerks, typists, etc.	10	3·04
School age ...	10	3·04
Various	31	9·42
Metal workers, etc.	8	2·43
Infants	20	6·08
Food trades, etc. ...	14	4·26
Tobacco workers ...	8	2·43
Seamen, etc. ...	8	2·43
Printers, etc. ...	6	1·82
Leather workers ...	6	1·82
Wood workers ...	8	2·43
Tailors, etc. ...	8	2·43
Transport, motor & horse	8	2·43
Domestic servants...	16	4·86
Boxmakers ...	2	0·61
Decorators	4	1·22
Warehousemen ...	4	1·22
Railway employees	4	1·22

SANATORIA AVAILABLE FOR IN-PATIENT TREATMENT, 1935.

	No. of Beds	Admitted			Discharged or Transferred			Died		
		M.	F.	T.	M.	F.	T.	M.	F.	T.
Pulmonary—early cases :										
Winsley Sanatorium, nr. Bath	58	57	71	128	57	69	126	2	—	2
*Ham Green Sanatorium, Pill, near Bristol	52	72	70	142	108	85	193	56	44	100
Pulmonary and non-pulmonary —advanced cases.										
*Ham Green Sanatorium ...	108	96	54	150	63	63	126	19	20	39
*Southmead Hospital ...	68	87	83	170						
Pulmonary and non-pulmonary —children (under 16).										
*Frenchay Park Sanatorium, Frenchay, nr. Bristol ...	96	76	62	138	69	62	131	2	2	4
Non-pulmonary cases.										
Cossham Hospital, Kingswood Bristol	9	1	—	1	1	—	1	—	—	—
TOTALS ...	391	389	340	729	298	279	577	79	66	145

During the year the following cases were also admitted to and discharged from various outside institutions :—

			Admitted			Discharged			Died		
			M.	F.	T.	M.	F.	T.	M.	F.	T.
Pulmonary.											
Brompton Hospital ... ..	...	...	...	2	2	...	2	2	...	...	...
Papworth T.B. Colony ... ..	...	...	...	2	2	...	1	1	...	...	...
Non-Pulmonary.											
L. Mayor Treloar's Hospital, Alton	...	...	...	...	...	1	...	1	...	...	...
Dr. Rollier's Clinic, Leysin, Switzerland	...	...	...	...	...	1	...	1	...	...	...
Totals ...	...	...	...	4	4	2	3	5	...	...	...
			389	344	733	300	282	582	79	66	145

* Institution belonging to the Council.

Tuberculosis Dispensary.

Report by C. J. CAMPBELL FAILL, F.R.C.P., Ed.,
Tuberculosis Officer.

Situation of dispensary—

4 Redcliffe Parade West.

Summary for year 1935.

Two thousand three hundred and seventy one (2,371) old and new patients were examined at the dispensary during the year. The following summary shows the initial treatment recommended for these cases :—

1934 Total		Patients		1935 Total
		New	Old	
729	Sanatorium treatment	413	221	634
248	Dispensary treatment	34	174	208
562	Supervision and observation	54	290	344
14	Light treatment	11	21	32
210	Domiciliary treatment	22	178	200
955	No treatment required	575	378	953
2,700	Total	1,109	1,262	2,371

1934		1935
2,433	Total number of examinations	4,261
1,921	Total attendances of school children	1,813
412	Total injections	394
368	Artificial pneumothorax	430
6,805	No. of visits to patients by tuberculosis nurses and health visitors	6,757
132	No. of cases seen by consulting surgeon	102
204	No. of attendances of cases seen by consulting surgeon	144
83	No. of cases seen by ear, nose and throat surgeon	75
148	No. of attendances of cases seen by ear, nose and throat surgeon	122
433	No. of attendances for ultra-violet light treatment	1,135

Six hundred and seventy nine (679) children of school age were examined during the year. Of these, 348 were old cases attending for re-examination and 331 were new cases. Of the latter, 24·7 per cent. were diagnosed as definite cases of tuberculosis, 4·3 per cent. as suspects, and 71 per cent. as non-tuberculous. The total number of examinations of school-children was 1,020.

Of the total deaths in the city from all forms of tuberculosis, 41·6 per cent. occurred in sanatoria or hospitals controlled by the public health authority.

For many years past the Health Committee has loaned shelters to tubercular patients who possess suitable gardens for their erection. These shelters are regularly inspected and kept in repair. At the end of the year seven shelters were in use.

Return showing the work of the Dispensary during the year 1935.

DIAGNOSIS	PULMONARY.				NON-PULMONARY.				TOTAL.				GRAND TOTAL.	
	adults		children		adults		children		adults		children			
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
A.—NEW CASES examined during the year (excluding contacts) :														
(a) Definitely tuberculous	198	157	17	17	21	40	23	24	219	197	40	41	497	
(b) Diagnosis not completed .. ..	..	..	..	..	..	..	..	..	4	4	7	6	21	
(c) Non-tuberculous ..	..	..	..	..	..	..	..	..	99	138	74	55	366	
B.—CONTACTS examined during the year :—														
(a) Definitely tuberculous	4	4	9	1	..	..	5	3	4	4	14	4	26	
(b) Diagnosis not completed .. ..	..	..	..	..	..	..	..	..	..	..	1	..	1	
(c) Non-tuberculous ..	..	..	..	..	..	..	..	..	41	87	76	76	280	
C.—CASES written off the dispensary register as :—														
(a) Recovered	96	106	16	9	25	21	16	19	121	127	32	28	308	
(b) Non-tuberculous ..	..	..	..	..	..	..	..	..	146	238	155	139	678	
D.—NUMBER OF CASES on dispensary register on December 31st :—														
(a) Definitely tuberculous	1114	993	178	108	144	173	213	171	1258	1166	391	279	3094	
(b) Diagnosis not completed .. ..	..	..	..	..	..	..	..	..	4	4	8	6	22	

1. Number of cases on Dispensary Register on January 1st ..	3,337	2. Number of cases transferred from other areas and cases returned after discharge under head 3 in previous years	41
3. Number of cases transferred to other areas, cases not desiring further assistance under the scheme, and cases "lost sight of" ..	192	4. Cases written off as dead during the year (all causes)	275
5. Number of attendances at the Dispensaries (including contacts) ..	7,936	6. Number of Insured Persons under domiciliary treatment on 31st December	320
7. Number of consultations with medical practitioners : (a) Personal 66 (b) Other 1,209		8. Number of visits by tuberculosis officers to homes (including personal consultations) ..	393
9. Number of visits by nurses or health visitors to homes for dispensary purposes	*6,757	10. Number of : (a) Specimens of sputum, etc., examined 1,123 (b) X-ray examinations made in connection with dispensary work 1,141	
11. Number of "recovered" cases restored to dispensary register and included in A (a) and A (b) above	5	12. Number of "T.B. plus" cases on dispensary register on December 31st	723

* Including Public Health (Tuberculosis) visits.

Return showing the immediate results of treatment of definitely tuberculous patients discharged from residential institutions during the year 1935.

Classification on admission to the institution.			Condition at time of discharge.	Duration of residential treatment in the institution.															Grand Totals
				Under 3 months			3—6 months.			6—12 months.			More than 12 months			Totals			
				M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	
PULMONARY TUBERCULOSIS	Class T.B. minus.	Quiescent	10	15	2	24	29	10	10	10	14	2	1	2	46	55	28	129	
		Not quiescent ..	4	8	1	1	1	1	2	2	2	2	..	..	9	11	4	24
		Died in institution	3	..	..	..	1	1	..	1	..	..	2	..	3	4	1	8
	Class T.B. plus group 1.	Quiescent	3	1	..	6	4	1	1	1	..	..	..	..	10	6	1	17
		Not quiescent ..	..	..	..	..	..	..	1	1	..	..	..	..	1	1	..	2
		Died in institution	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Class T.B. plus group 2.	Quiescent	1	..	..	4	7	..	8	5	..	1	..	..	14	12	..	26
		Not quiescent ..	1	2	..	1	5	..	2	4	..	1	1	..	5	12	..	17	
		Died in institution	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Class T.B. plus group 3.	Quiescent	1	1	..	19	5	..	15	8	..	2	3	..	37	17	..	54	
		Not quiescent ..	15	12	..	22	19	..	12	13	..	4	3	..	53	47	..	100	
		Died in institution	19	16	..	9	8	..	14	9	..	9	2	..	51	35	..	86	
TOTALS (Pulmonary)			57	55	3	86	79	13	65	54	16	21	12	2	229	200	34	463	
NON-PULMONARY TUBERCULOSIS	Bones and joints.	Quiescent	7	5	1	3	2	7	4	..	2	1	..	3	15	7	13	35	
		Not quiescent ..	1	1	..	..	..	..	..	..	..	..	..	1	1	1	1	3
		Died in institution	..	1	..	..	1	..	..	..	..	..	1	1	..	3	1	4
	Abdominal	Quiescent .. ..	..	1	5	1	3	7	..	3	3	1	..	1	2	7	15	24
		Not quiescent ..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	1
		Died in institution	..	1	1	..	..	..	..	..	..	..	..	..	..	1	1	2
	Other organs	Quiescent	3	3	..	..	..	..	1	..	..	..	..	2	4	3	2	9
		Not quiescent ..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	1
		Died in institution	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	1
	Peripheral glands	Quiescent .. ..	..	..	7	..	1	8	..	..	11	..	..	..	..	1	26	27
		Not quiescent ..	..	1	..	..	..	1	..	..	..	..	..	..	..	1	1	2
		Died in institution	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
TOTALS (Non-pulmonary) ..			11	13	15	4	7	23	7	3	16	2	1	7	24	24	61	109	

Return showing the results of observation of doubtfully tuberculous cases discharged from residential institutions during the year 1935.

Diagnosis on discharge from observation.	Pulmonary Tuberculosis						Non-Pulmonary Tuberculosis						Totals.		
	Stay under 4 weeks.			Stay over 4 weeks.			Stay under 4 weeks.			Stay over 4 weeks.					
	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.
Tuberculous	...	...	1	...	...	7	...	...	...	1	1	2	1	1	10
Non-tuberculous	*2	†4	...	‡6	§11	23	1	1	3	2	4	12	11	20	38
Doubtful	...	...	...	...	...	1	...	...	...	1	...	...	1	...	1
Totals	2	4	1	6	11	31	1	1	3	4	5	14	13	21	49

Including : * One case died : acute ulcerative endocarditis.

† 3 deaths : 1 Bronchiectasis

2 Diabetes mellitus

3 Abscess of lung.

‡ 3 deaths : 1 Carcinoma of lung and chronic bronchitis.

2 Carcinoma of lung

3 Haemoptysis, bronchiectasis, sub-phrenic abscess.

§ 2 deaths : 1 Carcinoma of lung

2 Heart disease, empyema and chronic bronchitis.

VENEREAL DISEASES.

1934	TREATMENT CENTRE.	1935
1,162	New patients	1,067
267	Syphilis	199
4	Soft chancre	9
493	Gonorrhoea	469
398	Non-venereal	390
2,057	Total patients	1,751
55,329	Total attendances	53,521
660	Under treatment at end of year	571
543	Syphilis	469
0	Soft chancre	3
117	Gonorrhoea	99
7,384	Intravenous injections of salvarsan substitute	8,245
67	Inpatients	57

There has been no change in the local arrangements for the treatment of venereal disease, as set forth in my report for 1930. In the tables which follow, the medical director of the treatment centre (S. Hardy Kingston, M.B., Ch.B., D.P.H.) gives full particulars of the numbers, types, treatment, pathological examinations and attendances from each area for the year 1935. The number of new

patients showed a decrease of 95 on the previous year, while the number of patients treated declined by 306. This affected the attendances which declined by 1,808 to 53,521, including attendances made by 390 non-venereal cases under the routine system of examination whenever possible of members of the family of true cases. A large proportion of these family examinees were found to be free of the disease. At the end of the period under review 571 patients remained under treatment at the centre. During the year intravenous injections of salvarsan substitute increased by 861 and 57 patients were admitted to the institution for residential treatment (27 women and 30 men).

Twenty-six (26) medical practitioners in the city are recognised for the purpose of obtaining free of charge from the Corporation approved substitutes for salvarsan and specimens were submitted by private practitioners for examination at the laboratory of the department of preventive medicine at the Bristol University.

The staff at the treatment centre remains as previously published, viz. :—medical director, four assistant medical officers, one sister, two nurses, two domestic staff and two orderlies.

Venereal Disease Clinic.

Statement showing the services rendered at the treatment centre during the year 1935.

	Syphilis		Soft Chancre		Gonorrhoea		Conditions other than Venereal		TOTALS	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1. Number of cases on 1st January under treatment or observation	343	200	..	..	70	47	..	..	413	247
2. Number of cases removed from the register during any previous year which returned during the year under report for treatment or observation of the same infection ..	4	5	..	..	7	9	..	..	11	14
3. Number of cases dealt with for the first time during the year under report (exclusive of cases under item 4) suffering from :—										
Syphilis, primary	75	14	..	..	..	..	..	..	75	14
" secondary	3	6	..	..	..	..	..	..	3	6
" latent in 1st year of infection	2	..	..	..	..	..	..	..	2	..
" all later stages	40	29	..	..	..	..	..	..	40	29
" congenital	4	9	..	..	..	..	..	..	4	9
Soft "Chancre .. .. .	..	..	9	..	340	57	..	..	9	57
Gonorrhoea, 1st year of infection later.. .. .	..	..	..	..	21	6	..	..	21	6
Conditions other than venereal ..	..	..	..	..	..	..	316	74	316	74
4. Number of cases dealt with for the first time during the year under report known to have received treatment at other Centres for the same infection	15	4	..	..	38	5	..	..	53	9
TOTALS OF ITEMS 1, 2, 3 AND 4..	486	267	9	..	476	124	316	74	1,287	465
5. Number of cases discharged after completion of treatment and final tests of cure	10	8	..	..	160	42	316	74	486	124
6. Number of cases which ceased to attend before completion of treatment and were, on first attendance, suffering from :—										
Syphilis, primary	17	6	..	..	..	..	..	..	17	6
" secondary	4	8	..	..	..	..	..	..	4	8
" latent in 1st year of infection	2	..	..	..	..	..	..	..	2	..
" all later stages	32	39	..	..	..	..	..	..	32	39
" congenital	7	10	..	..	..	..	..	..	7	10
Soft "Chancre .. .. .	..	..	..	..	123	29	..	..	123	29
Gonorrhoea, 1st year of infection later.. .. .	..	..	..	..	6	5	..	..	6	5
7. Number of cases which ceased to attend after completion of treatment but before final tests of cure	20	15	..	..	32	17	..	..	52	32
8. Number of cases transferred to other centres or to institutions, or to care of private practitioners	99	6	6	..	83	4	..	..	188	10
9. Number of cases remaining under treatment or observation on 31st December	295	175	3	..	72	27	..	..	370	202
TOTALS OF ITEMS 5, 6, 7, 8 AND 9	486	267	9	..	476	124	316	74	1,287	465
10. Number of cases in the following stages of syphilis included in Item 6 which failed to complete one course of treatment :—										
Syphilis, primary.. .. .	7	1	..	..	..	..	..	..	7	1
" secondary	2	6	..	..	..	..	..	..	2	6
" latent in 1st year of infection .. .. .	..	..	..	..	..	..	..	..	..	..
" all later stages	4	12	..	..	..	..	..	..	4	12
" congenital .. .. .	..	7	..	..	..	..	..	..	..	7
11. Number of attendances :—										
(a) for individual attention of the medical officers	6,388	4,038	16	..	4,858	881	..	..	12,134	5,228
(b) for intermediate treatment, e.g., irrigation, dressing	861	845	..	..	29,570	4,883	..	..	30,431	5,728
TOTAL ATTENDANCES	7,249	4,883	16	..	34,428	5,764	872	309	42,565	10,956
12. In-patients :—										
(a) Total number of persons admitted for treatment during the year	13	8	..	..	17	19	..	..	30	27
(b) Aggregate number of "in-patient days" of treatment given	281	193	..	..	354	880	..	..	635	1,079
13. Number of cases of congenital syphilis in Item 3 above classified according to age periods										
Under 1 year	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1 and under 5 years .. .. .	..	..	..	..	..	..	..	..	..	..
5 and under 15 years .. .. .	..	..	..	..	..	..	..	..	..	..
15 years and over .. .. .	..	..	..	..	..	..	..	..	..	..
14. Chief preparations used in treatment of Syphilis :—										
(a) Names of preparations	Arsenobenzene Compounds				Mercury				Bismuth	
(b) Total number of injections given (out-patients and in-patients)	8,245				..				7,891	
	Stabilarsan, Sulphostab Silver, Salvarsan, N.A.B.				..				Cblorostab, Quinostab	

1935	Examinations of pathological material:— (a) Specimens which were examined at, and by the medical officer of, the treatment centre (b) Specimens from persons attending at the treatment centres which were sent for examination to an approved laboratory	MICROSCOPICAL		SERUM TESTS		
		for spirochetes	for gonococci	Wassermann	Others for syphilis	for Gonorrhoea
		28 —	— 1,578	— 1,926	— 33	— 569

No. of attendances from each area.

Name of county or county borough—	Bristol	Somerset-shire	Glo'ster-shire	Bath	Glamor-ganshire	Swansea	London	Cardiff	Bourne-mouth	Newcastle	Birming-ham	15 Others	Total
A. Number of cases from each area dealt with during the year for the first time and found to be suffering from : Syphilis Soft chancre Gonorrhoea Conditions other than venereal TOTAL	182 9 397 331 919	8 — 26 22 56	4 — 10 16 30	2 — 2 6 10	— — 1 1 2	— — 1 — 1	1 — 13 6 20	1 — 2 — 3	— — 1 1 2	1 — — — 1	— — 3 1 4	— — 13 6 19	199 9 469 390 1,067
B. Total number of attendances of all patients residing in each area ...	52,102	754	528	27	12	2	26	9	10	1	10	40	53,521
C. Aggregate number of "in-patient days" of all patients residing in each area ...	1,624	77	13	—	—	—	—	—	—	—	—	—	1,714
D. Number of doses of arsenobenzol compounds given in the out-patient clinic and the in-patient department to patients residing in each area ...	7,797	205	228	9	1	1	—	3	—	1	—	—	8,245

PREVENTION OF BLINDNESS.

1934	STATISTICS at 31st March	1935
620	Blind persons on register	629
40	Registered during year	42
28	Resident pupils in school	24
64	Workers and adult pupils in workshops	66
8	Homeworkers	8
14	Women resident in hostel	11
	Blind persons visited by home teachers (not	
370	included above)	380
172	Unemployable blind assisted by grants ...	193
	Exemption certificates held under Wireless	
	Telegraphy (Blind persons' facilities)	
298	Act, 1926	322
34	Granted during year	47

My report for 1930 described the administrative scheme made under the Local Government Act, 1929, for the welfare and training of blind persons, the arrangements made to co-ordinate the work of the various committees of the Council and for securing the efficiency of the services delegated to voluntary associations.

Last year a modification of the scale of relief and an extension of after-care of myopic children was reported.

During the year, inspections were made of the services provided by the Bristol Royal Blind Asylum, including the workshops in Park Street and the hostel for blind women workers in Woodland Road to which unemployable and middle-aged blind women are now admitted.

The arrangements made by the Bristol Royal Blind Asylum for the registration, certification, employment, training and welfare of blind persons continue to be adequate and efficient. An improved system of registration has been adopted and the Blind Asylum have appointed a special sub-committee to consider the introduction of new trades. Flat knitting has been introduced at the school but the dislocation from the temporary transfer of the workshops to Broadweir during structural alterations following street widening has definitely held this question up for the time being. No new cases are added to the register before examination and certification in accordance with Form BD.8 and practically all persons already on the register have now been re-examined by the ophthalmic surgeon. This revision of the register has resulted in the removal from the register of 49 persons found to be not blind within the meaning of the definition in the Blind Persons Act, 1920.

During the year ending 31st March, 1935, the Royal Blind Asylum have expended the sum of £9,949 4s. 3d. upon the education and training of blind persons and have incurred expenditure, amounting to £15,198 17s. 8d. for the provision of benefits to adult blind persons, towards which expenditure the Council contributed the sum of £8,428 18s. 9d. The Council have also expended a sum of £195 in respect of blind persons resident in the institutions of the Public Assistance Committee and have paid a further sum of £491 in respect of services rendered to blind persons in the city by various organisations and for medical inspection of blind persons.

The general manager of the Royal Blind Asylums Workshops commenting on the year's work states that :—

“ The improvement in our scale of relief to unemployable blind has been much appreciated and has shewn definite increases in the numbers benefited under the scheme and the amount expended. In conjunction with the Blind Persons Act Committee of the Council the Blind Asylum Committee are considering some further improvement in this direction.

In particular it is somewhat gratifying to observe that there has been a definite improvement in the general standard and condition of the unemployable blind. Whilst we have been able by these means to remove from the streets persons begging who are Bristolians, we have not been able to prevent a few cases of migrants from other districts taking up such methods of livelihood in our streets.

We have been able to co-operate to some extent in the work of the clinic for the examination and re-examination of blind persons and especially to secure if possible remedial treatment where such treatment is likely to improve defective sight or to prevent blindness.

The social club for unemployables is becoming increasingly useful and it is hoped that in the proposed alterations to the workshops and general welfare buildings in Park Street we shall make facilities for club rooms, etc. During the present year, alterations to the workshops will be undertaken to meet the requirements of the Council in connection with the street widening, etc. for the purpose of the new municipal buildings. It is anticipated that this will improve the facilities for employment and general welfare.

From time to time visits of inspection and enquiry are arranged with groups of interested people and in particular the committee welcome such visits from the students of the University Course for the diploma for health visitors. Facilities for visits of blind children and adults to city museums are being organised and are likely to prove useful.

In addition to the work for the Council the Bristol institution is the centre for a good deal of work for the blind in the adjoining counties and with their co-operation such arrangements have been found useful to the blind in the adjoining counties as well as in our city.”

An analysis of the registered blind in the city, as at 31st March, 1936, in the form required by the Ministry of Health (Form B.D.9) is reproduced on page 125. This gives a complete picture of the age, sex, disability, training and employment of 635 blind persons including those physically and mentally defective or unemployable.

Blind Persons Clinic.

*Report by R. R. Garden, M.A., M.B., D.O.M.S., D.P.H.,
Certifying Ophthalmic Surgeon.*

During 1935, a total of 29 sessions was held, including 24 clinics and five periods of home-visiting for the purpose of examining invalids.

The number of individual examinations was 94, including 60 new applicants and 34 cases under observation. Of the new candidates, 42 were certified as blind persons, while 18 had too much sight to be accepted.

The following is a summary of the causes of blindness, as far as could be ascertained, in the new cases registered during the year :—

Congenital and undetermined causes—

Congenital, hereditary and developmental ...	3
Myopic error	6
Glaucoma, primary	10
Cataract, primary	12
Other undetermined causes	2

Infectious and bacterial—

Syphilis, congenital	2
Eczematous, kerato-conjunctivitis	1
Chronic septicaemia, auto-toxic, focal sepsis	2

General diseases—

Vascular diseases	2
Intracranial neoplasm	1
Diabetes	1

During the examinations, applicants are advised as to the possibility of any medical, surgical or optical treatment, and, when necessary, assistance is given to obtain it. Periodical re-examinations are made in some of these cases, and also of those not certified blind who have eye conditions in which the sight may deteriorate.

When pupils leave the partially-sighted departments of Carlton Park School and the Royal School for the Blind, they are followed up after six months, if resident in Bristol. An examination is arranged, at which advice about care of the eyes can be given, and any change of glasses ordered. An opportunity is also given of certifying any whose sight may have decreased, and of advising treatment where necessary. In future, these re-examinations will in most cases be arranged at six monthly intervals, and it is hoped will make a useful contribution to the problem of preventing blindness.

Registration at Age Periods—As at 31/3/1936.

Welfare of the Blind.

TABLE I.

City and County of Bristol.

0—1			1—5			5—16			16—21			21—40			40—50			50—65			65—70			70 and over			(i) Total of all age groups (ii) Age unknown		
M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
1	—	1	—	—	—	19	5	24	9	8	17	34	31	65	55	29	84	103	114	217	39	46	85	44	98	142	(i) 304 (ii)	(i) 331 (ii)	(i) 635 (ii)

TABLE II.—Ages at which Blindness occurred.

0—1			1—5			5—10			10—20			20—30			30—40			40—50			50—60			60—70			70—			Unknown		
M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
39	53	92	13	11	24	14	17	31	24	22	46	27	19	46	27	20	47	49	45	94	63	60	123	35	57	92	8	25	33	3	4	7

TABLE III.—Children of School Age, 5—16.

	Normal		Mentally defective		Physically defective	
	M.	F.	M.	F.	M.	F.
In Schools for the Blind ...	18	4	—	—	—	—
Other Schools ...	—	—	—	—	—	—
Not at school ...	—	—	1	1	—	—

TABLE IV.—Training and Employment. Age Period 16 and upwards.

	Normal		Mentally defective		Physically defective		Employed									Undergoing Training									(h) Trained but unemployed			(i) No training but trainable			(j) Unemployable			(k) Total																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	M.	F.	M.	F.	M.	F.	By Blind Organisations			(c) All others not included (in (a) and (b))	(d) Total Employed	(e) Industrial	(f) Secondary	(g) Professional and University																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	In Schools for the Blind ...	18	4	—	—	—	—	(a) Workshops	(b) Home workers						M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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TABLE V.—Occupations of Employed Blind Persons included in (d) of Table IV.

	Agents, Collectors, etc.	Basket workers	Bedding (including divans, and ottomans and upholstery)			Boot repairers	Braille copyists & proof readers	Brush makers	Carpenters and woodworkers	Chairseaters	Clerks and typists	Coal bag makers	Dealers, tea agents, newsagents, shop- keepers	Firewood workers	Gardeners	Hawkers, newsvendors, etc.	Home teachers	Knitters		Labourers	Massage	Mat makers	Ministers of religion	Musicians and music teachers	Netting makers	porters, packers, cleaners	Poultry farmers	School teachers	Ships tenders (Fendoff) makers	Telephone operators	Tuners	Weavers	Miscellaneous	Total
			Mattress makers	Machin- ists	Uphol- sters													Hand	Machine															
Within institutions for the blind ...	5	28	...	...	...	...	...	1	...	1	...	...	...	...	...	...	4	8	9	...	...	10	...	1	...	...	...	2	...	...	...	5	...	74
In approved home workers' schemes	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...
Others (not pastime workers) ...	1	...	...	...	...	1	...	...	...	...	1	...	2	...	...	4	...	1	...	...	2	6	1	3	...	...	...	1	...	...	2	...	5	30
TOTAL ...	6	28	...	...	...	1	...	1	...	1	1	...	2	...	...	4	4	9	9	...	2	16	1	6	...	...	...	3	...	...	8	5	5	112

TABLE VI.—Physically and Mentally Defective (including those given in Table III.)

(a) Mentally defective			(b) Physically defective			(c) (i) Deaf (ii) Deaf-mute			Combinations of (a) and (b)			Combinations of (a) and (c)			Combinations of (b) and (c)			Combinations of (a), (b), (c)			Total		
M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
11	26	37	16	15	31	(i) 12 (ii)	(i) 23 (ii)	(i) 35 (ii)	—	2	2	1	2	3	2	1	3	—	—	—	42	69	111

TABLE VII.—Unemployable persons resident in Homes for the Blind, Mental Hospitals or Poor Law Institutions.

Homes for the blind			Mental hospitals			Poor Law institutions		
M.	F.	T.	M.	F.	T.	M.	F.	T.
—	17	17	8	15	23	13	9	22

Table.

APPENDIX.

1. Birth-rates, death-rates, analysis of mortality, maternal death-rates and case-rates for certain infectious diseases in the year 1935—England and Wales, London, 121 great towns, 140 smaller towns and Bristol.
2. Total deaths by cause and age in Bristol during calendar year 1935.
3. Principal causes of death with death rates and percentages.
4. Population, births, deaths, natural increase, infant mortality and maternal mortality for calendar year 1935 and previous nine years.
- 5 & 6. Quinquennial birth and death rates 1881 to 1935—Bristol and England and Wales.
- 7 & 8. Quinquennial infant and maternal mortalities 1881 to 1935—Bristol and England and Wales.
9. Notifications of infectious disease in Bristol with mean attack rates 1890 to 1935.
10. Results of meteorological observations in Bristol during 1935.

Table 1.—*Supplied by the Registrar General.*

Birth-rates, death-rates, analysis of mortality, maternal death-rates, and case-rates for certain infectious diseases in the year 1935.

(Provisional figures based on weekly and quarterly returns).

	Bristol	England and Wales	121 County Boroughs and great towns ncluding London	140 Smaller towns (resident populations 25,000 to 50,000 at 1931 Census)	London Administra- tive County
	Rates per 1,000 population				
BIRTHS :					
Live	13·85	14·7	14·8	14·8	13·3
Still	·61	0·62	0·68	0·64	0·52
DEATHS :					
All causes ..	10·92	11·7	11·8	11·2	11·4
Typhoid and Paratyphoid fevers	0·002	0·00	0·00	0·00	0·00
Smallpox ..	—	—	—	—	—
Measles ..	0·03	0·03	0·04	0·03	0·00
Scarlet fever ..	0·02	0·01	0·01	0·01	0·01
Whooping cough	—	0·04	0·04	0·03	0·04
Diphtheria ..	0·03	0·08	0·09	0·07	0·06
Influenza ..	0·07	0·18	0·16	0·17	0·11
Violence	0·34	0·52	0·45	0·41	0·51
NOTIFICATIONS :					
Smallpox ..	—	—	—	—	—
Scarlet fever ..	2·50	2·96	3·19	2·75	2·64
Diphtheria ..	1·51	1·60	1·96	1·34	2·25
Enteric fever ..	0·03	0·04	0·04	0·06	0·05
Erysipelas ..	0·37	0·42	0·48	0·37	0·45
Pneumonia ..	0·88	1·15	1·36	0·98	0·89
	Rates per 1,000 live births.				
Deaths under 1 year of age	44	57	62	55	58
Deaths from diarrhoea and enteritis under 2 years of age ..	2·8	5·7	7·9	3·8	11·2
MATERNAL MORTALITY:					
Puerperal sepsis	1·22	1·68	} Not available		
Others	1·75	2·42			
Total	2·97	4·10			
	Rates per 1,000 total births (i.e., live and still).				
MATERNAL MORTALITY.					
Puerperal sepsis	1·17	1·61	} Not available.		
Others	1·67	2·32			
Total	2·84	3·93			
NOTIFICATIONS : ..					
Puerperal fever	1·67	3·60	4·55	2·76	4·32
Puerperal pyrexia	6·20	9·44	11·14	8·25	11·89

Table 2.

Total Deaths by Cause and Age in the County Borough of Bristol during the calendar year 1935.

Supplied by the Registrar General

CAUSES OF DEATH.	Sex.	All Agcs.	0—	1—	2—	5—	15—	25—	35—	45—	55—	65—	75—
ALL CAUSES	M. F.	2,214 2,291	156 98	20 24	24 33	33 37	69 67	90 94	121 156	250 196	392 324	559 536	500 726
1 Typhoid and paratyphoid fevers	M. F.	... 1	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... 1	......	......	......
2 Measles	M. F.	6 9	3 ...	1 6	2 1	... 2	......	......	......	......	......	......	......
3 Scarlet fever	M. F.	5 3	... ...	1 3	1 3	2 ...	... ...	... ...	1...	......	......	......	......
4 Whooping cough	M. F.	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
5 Diphtheria	M. F.	5 6	... ...	1 ...	2 4	1 2	... ...	1...	......	......	......	......	......
6 Influenza	M. F.	18 13	1 1	... 1	1 ...	... ...	... ...	... ...	1 2	4 1	4 1	4 3	3 4
7 Encephalitis lethargica	M. F.	2 4	... ...	... ...	1 ...	... ...	... ...	... 1	... ...	... ...	... ...	... 1	......
8 Cerebro-spinal fever	M. F.	1 6	1 1	... 1	... 1	... 1	... ...	... ...	... 2	......	......	......	......
9 Tuberculosis of respiratory system	M. F.	157 142	... ...	1 ...	2 3	3 3	26 36	35 35	32 27	20 19	30 13	5 4	3 2
10 Other tuberculous diseases	M. F.	17 18	... ...	2 4	5 4	3 1	2 3	2 1	1 2	... 1	2 1	... ...	... 1
11 Syphilis	M. F.	15 5	1 1	... ...	... ...	... ...	... ...	1 ...	... ...	6 2	2 1	3 1	2 ...
12 General paralysis of the insane, tabes dorsalis	M. F.	9 1	......	......	......	......	......	......	......	......	......	......	......
13 Cancer, malignant disease	M. F.	302 381	... ...	... ...	... ...	2 ...	2 1	2 6	8 29	37 45	86 102	110 107	55 91
14 Diabetes	M. F.	24 43	... ...	... ...	... ...	1 ...	1 ...	3 1	2 1	1 4	3 9	11 19	2 9
15 Cerebral haemorrhage, &c.	M. F.	113 166	... ...	... ...	... ...	... ...	... ...	... 1	2 6	7 12	21 30	40 53	43 64
16 Heart disease	M. F.	559 587	... ...	... ...	... ...	... ...	2 7	8 12	13 19	60 33	96 66	193 165	187 285
17 Aneurysm	M. F.	9 7	... ...	... ...	... ...	... ...	... ...	... ...	1 1	4 2	1 1	3 3	......
18 Other circulatory diseases	M. F.	90 109	... 1	... ...	... ...	... ...	... ...	1 ...	1 1	6 5	25 10	34 34	23 58
19 Bronchitis	M. F.	65 58	5 1	2 1	1 ...	... ...	1 ...	... 1	2 1	7 3	6 7	14 15	27 29
20 Pneumonia (all forms)	M. F.	128 86	19 7	7 6	2 4	6 1	2 ...	4 3	16 9	18 4	18 9	21 16	15 27
21 Other respiratory diseases	M. F.	46 45	... ...	... 1	... ...	1 ...	3 2	... 2	2 ...	2 ...	5 3	6 11	27 26
22 Peptic ulcer	M. F.	43 7	... ...	... ...	... ...	... ...	... ...	2 ...	7 1	8 2	13 ...	10 2	3 2
23 Diarrhoea, &c.	M. F.	22 8	14 1	1 ...	... ...	... ...	... ...	1 ...	... 2	4 1	1 3	... ...	1 1
24 Appendicitis	M. F.	15 15	... ...	... ...	... 1	3 2	... ...	... 1	1 3	2 ...	2 4	5 4	2 ...
25 Cirrhosis of liver	M. F.	5 5	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1 1	1 2	3...	......
26 Other diseases of liver, etc	M. F.	10 20	... ...	... ...	... ...	... ...	1 ...	... 1	1 1	4 2	... 4	1 7	3 5
27 Other digestive diseases	M. F.	42 39	4 2	... ...	1 ...	2 ...	1 ...	... 4	5 2	9 4	4 4	8 12	8 2
28 Acute and chronic nephritis	M. F.	69 103	... ...	... ...	1 2	... 4	... ...	5 3	3 5	9 11	14 20	24 34	13 24
29 Puerperal sepsis	F.	7	...	...	...	...	1 ...	3 ...	3...	......	......	......	......
30 Other puerperal causes	F.	10	...	...	...	...	1 ...	4 ...	5...	......	......	......	......
31 Congenital debility, premature birth, malformations, etc.	M. F.	99 73	98 72	... ...	1 1	......	......	......	......	......	......	......	......
32 Senility... ..	M. F.	26 53	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	26 52
33 Suicide	M. F.	37 24	... ...	... ...	... ...	... ...	3 2	4 3	3 6	10 6	10 4	1 3	6 ...
34 Other violence	M. F.	96 46	3 ...	2 2	1 3	3 8	17 3	11 1	13 2	12 3	12 3	10 9	12 12
35 Other defined diseases...	M. F.	179 196	7 11	2 2	3 6	6 13	8 11	10 11	6 26	14 32	33 25	51 32	39 27
36 Causes ill-defined or unknown	M. F.	... 4	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... 1	... ...	... ...	... 3

Table 3.

Compiled from figures supplied by Registrar General.

1935.

Principal Causes of Death during calendar year.

Death Rate per 1,000	DISEASE.	Net deaths in 1935	% to total deaths
·002	Typhoid and paratyphoid fevers ...	1	·02
·04	Measles	15	·33
·02	Scarlet fever	8	·18
—	Whooping cough	—	—
·03	Diphtheria	11	·25
·08	Influenza	31	·69
·01	Encephalitis lethargica	6	·13
·02	Cerebro-spinal fever	7	·16
·72	Tuberculosis of respiratory system	299	6·64
·09	Other tuberculous diseases ...	35	·78
·05	Syphilis	20	·44
·02	General paralysis of the insane, tabes dorsalis	10	·22
1·65	Cancer, malignant disease	683	15·20
·16	Diabetes	67	1·49
·68	Cerebral haemorrhage, etc....	279	6·20
2·77	Heart disease	1,146	25·44
·04	Aneurysm	16	·36
·48	Other circulatory diseases ...	199	4·42
·30	Bronchitis	123	2·73
·52	Pneumonia (all forms)	214	4·77
·22	Other respiratory diseases ...	91	2·02
·12	Peptic ulcer	50	1·11
·07	Diarrhoea, etc.	30	·67
·07	Appendicitis	30	·67
·02	Cirrhosis of liver	10	·22
·07	Other diseases of liver, etc. ...	30	·67
·17	Other digestive diseases	72	1·51
·42	Acute and chronic nephritis ...	172	3·82
·02	Puerperal sepsis	7	·16
·02	Other puerperal causes	10	·22
·42	Congenital debility, premature birth, malformations, etc. ...	172	3·82
·19	Senility	79	1·75
·15	Suicide	61	1·35
·34	Other violence	142	3·15
·91	Other defined diseases	375	8·32
·01	Causes ill-defined or unknown ...	4	·09
10·92		4,505	100·00

Compiled from figures supplied by Registrar General.

Table 4.

CITY AND COUNTY OF BRISTOL.

Population, Births, Deaths, Natural Increase, Infant Mortality,
Maternal Mortality, for Calendar Year 1935 and previous years.

	1935	1934	1933	1932	1931	1930	1929	1928	1927	1926
Estimated population (mid year)										
For birth rate ..	412,625	410,500	409,400	403,900	399,900	391,335	391,300	390,700	386,000	383,600
For death rate ..										
					399,600	391,035	391,000	390,400	385,700	383,300
Marriages.										
Number	3,558	3,435	3,183	3,098	3,287	3,320	3,197	3,059	3,071	2,920
Rate per 1,000 population	17.3	16.7	15.5	15.3	16.4	16.9	16.3	15.7	15.9	14.7
Births.										
Legitimate—males ..	2,846	2,816	2,759	2,983	2,985	3,076	3,026	3,154	3,146	3,344
females ..	2,683	2,708	2,639	2,865	2,858	2,862	2,871	2,980	2,908	3,120
Illegitimate—males ..	101	100	98	111	104	122	97	115	128	114
females ..	85	88	96	106	93	97	101	114	119	108
Total	5,715	5,712	5,592	6,065	6,040	6,157	6,095	6,363	6,301	6,674
Rate per 1,000 living	13.85	13.92	13.66	15.01	15.1	15.7	15.6	16.3	16.3	17.4
Stillbirths.										
Legitimate—males ..	130	138	125	139	148	121	151	129	Stillbirths not registrable before 1st July, 1927.	
females ..	110	102	120	90	90	108	111	123		
Illegitimate—males ..	4	8	6	5	9	4	6	5		
females ..	8	9	9	5	4	3	8	2		
Total	252	257	260	239	251	236	276	259		
Rate per 1,000 total births	4.2	4.3	4.4	3.8	4.0	3.7	4.3	3.9		
Deaths.										
Males	2,214	2,197	2,412	2,352	2,310	2,210	2,466	2,202	2,327	2,200
Females	2,291	2,296	2,517	2,340	2,427	2,260	2,606	2,300	2,468	2,180
Total	4,505	4,493	4,929	4,692	4,737	4,470	5,072	4,502	4,795	4,380
Rate per 1,000 population	10.92	10.92	12.04	11.6	11.8	11.4	12.9	11.5	12.4	11.4
Deaths under 1 year.										
Legitimate	235	246	286	303	282	331	340	354	340	420
Rate per 1,000 births ..	4.2	4.5	5.3	5.2	4.8	5.6	5.8	5.8	5.6	6.0
Illegitimate	19	19	20	17	21	23	24	21	23	30
Rate per 1,000 births ..	10.2	10.1	10.3	7.8	10.7	10.5	12.1	9.2	9.3	10.2
Total deaths	254	265	306	320	303	354	364	375	363	450
Rate per 1,000 births ..	4.4	4.6	5.5	5.3	5.0	5.7	6.0	5.9	5.8	6.7
Natural increase per 1,000 population	2.93	3.00	1.62	3.52	3.3	4.3	2.6	4.8	3.9	5.9
Diarrhoea and Enteritis— (under two years)										
Deaths	16	17	29	43	16	26	27	30	29	30
Rate per 1,000 births ..	2.8	2.98	5.2	7.1	2.65	4.22	4.43	4.71	4.60	5.0
Childbirth (Mothers).										
Deaths	17	25	25	18	19	14	15	11	11	11
Rate per 1,000 births ..	2.97	4.38	4.47	2.96	3.15	2.27	2.46	1.73	1.75	1.5
Puerperal Fever.										
Deaths	7	10	11	6	10	8	12	3	8	1
Rate per 1,000 births ..	1.22	1.75	1.96	0.99	1.66	1.30	1.97	0.47	1.27	1.9

Tables 5 & 6.

*Figures from Registrar General's Returns.***Births.**

YEAR	BRISTOL		ENGLAND and WALES.
	Number of Births.	Birth Rate.	
1881-1885	34,574	33·0	33·5
1886-1890	33,279	30·6	31·4
1891-1895	33,091	29·4	30·5
1896-1900	40,420	26·5	29·3
1901-1905	46,280	27·2	28·2
1906-1910	43,805	23·5	26·3
1911-1915	38,666	21·6	23·6
1916-1920	35,732	19·0	20·1
1921-1925	36,795	19·1	19·9
1926-1930	31,592	16·3	16·7
1931-1935	29,124	14·3	14·9
1923	7,347	19·1	19·7
1924	6,940	18·0	18·8
1925	6,730	17·4	18·3
1926	6,676	17·4	17·8
1927	6,301	16·3	16·6
1928	6,363	16·3	16·7
1929	6,095	15·6	16·3
1930	6,157	15·5	16·3
1931	6,040	15·1	15·8
1932	6,065	15·0	15·3
1933	5,592	13·6	14·4
1934	5,712	13·9	14·8
1935	5,715	13·8	14·7

Deaths.

YEAR	BRISTOL		ENGLAND and WALES.
	Number of deaths.	Death rate.	
1881-1885	20,168	19·2	19·4
1886-1890	21,164	19·5	18·9
1891-1895	21,199	18·8	18·7
1896-1900	24,630	16·1	17·7
1901-1905	26,609	15·6	16·0
1906-1910	24,818	13·3	14·7
1911-1915	25,367	14·1	14·3
1916-1920	24,747	14·1	14·4
1921-1925	23,411	12·2	12·2
1926-1930	23,258	11·9	12·1
1931-1935	23,356	11·4	12·0
1923	4,371	11·3	11·6
1924	4,701	12·2	12·2
1925	5,182	13·4	12·2
1926	4,419	11·5	11·6
1927	4,795	12·4	12·3
1928	4,502	11·5	11·7
1929	5,072	12·9	13·4
1930	4,470	11·4	11·4
1931	4,737	11·8	12·3
1932	4,692	11·6	12·0
1933	4,929	12·0	12·3
1934	4,493	10·9	11·8
1935	4,505	10·9	11·7

Tables 7 & 8.

*Figures from Registrar General's Returns.***Infant Mortality.**

YEAR	BRISTOL.		ENGLAND and WALES
	Number of deaths under one year	Rate per 1,000 births	
1881-1885	4,858	140	139
1886-1890	4,789	144	145
1891-1895	4,767	144	151
1896-1900	6,000	148	156
1901-1905	5,863	127	138
1906-1910	4,804	110	117
1911-1915	4,293	111	110
1916-1920	3,076	86	90
1921-1925	2,549	69	76
1926-1930	1,925	61	68
1931-1935	1,448	49	
1923	456	62	69
1924	493	71	75
1925	511	76	75
1926	469	70	70
1927	363	58	70
1928	375	59	65
1929	364	60	74
1930	354	57	60
1931	303	50	66
1932	320	53	65
1933	306	55	64
1934	265	46	59
1935	254	44	57

Maternal Mortality.

YEAR	PUERPERAL SEPSIS			OTHER PUERPERAL CAUSES.			ALL CAUSES.		
	BRISTOL		ENGLAND AND WALES.	BRISTOL		ENGLAND AND WALES.	BRISTOL		ENGLAND AND WALES
	Number of deaths	Rate per 1,000 births		Number of deaths	Rate per 1,000 births		Number of deaths	Rate per 1,000 births	
1891-1895	67	2.02	2.60	102	3.08	2.89	169	5.11	5.49
1896-1900	69	1.71	2.12	89	2.20	2.57	158	3.91	4.69
1901-1905	70	1.51	1.95	155	3.35	2.32	225	4.86	4.27
1906-1910	63	1.44	1.56	90	2.05	2.18	153	3.49	3.74
1911-1915	56	1.45	1.42	97	2.51	2.61	153	3.96	4.03
1916-1920	51	1.43	1.51	79	2.21	2.61	130	3.64	4.12
1921-1925	49	1.33	1.40	83	2.26	2.50	132	3.59	3.90
1926-1930	44	1.39	1.73	61	1.93	2.54	105	3.32	4.27
1931-1935	44	1.50		60	2.06		104	3.57	
1923	6	0.82	1.30	18	2.45	2.51	24	3.27	3.81
1924	8	1.15	1.39	19	2.74	2.51	27	3.89	3.90
1925	23	3.42	1.56	13	1.93	2.52	36	5.35	4.08
1926	13	1.95	1.60	10	1.50	2.52	23	3.45	4.12
1927	8	1.27	1.57	11	1.75	2.54	19	3.02	4.11
1928	3	0.47	1.79	11	1.73	2.63	14	2.20	4.42
1929	12	1.97	1.80	15	2.46	2.53	27	4.43	4.33
1930	8	1.30	1.92	14	2.27	2.48	22	3.57	4.40
1931	10	1.66	1.66	9	1.48	2.45	19	3.15	4.11
1932	6	0.99	1.61	12	1.97	2.63	18	2.96	4.24
1933	11	1.96	1.79	14	2.51	2.63	25	4.47	4.42
1934	10	1.75	2.03	15	2.63	2.57	25	4.38	4.60
1935	7	1.22	1.68	10	1.75	2.42	17	2.97	4.10

Table 9.

CITY AND COUNTY OF BRISTOL (INCLUDING PORT).

Cases of Infectious Disease notified with Mean Attack Rates per 100,000 population for quinquennial periods.

DISEASE*	1890/1894		1895/1899		1900/1904		1905/1909		1910/1914		1915/1919		1920/1924		1925/1929		1930/1934		1930	1931	1932	1933	1934	1935
	Total	Mean attack rate	Total	Mean attack rate	Total	Mean attack rate	Total	Mean attack rate	Total	Mean attack rate	Total	Mean attack rate	Total	Mean attack rate	Total	Mean attack rate	Total	Mean attack rate						
Smallpox	386	35	58	4	86	5	93	5	66	4	33	2	8	4	71	4								
Plague											4	2					1	04			1			
Diphtheria	501	45	1,060	80	4,708	282	4,422	240	3,178	174	2,156	124	4,993	261	4,223	218	4,246	211	1,484	828	543	640	751	625
Erysipelas	820	73	1,244	94	1,610	96	1,208	65	1,277	70	920	53	897	46	795	41	787	39	174	146	136	166	165	155
Scarlet Fever	4,579	410	3,504	264	10,313	617	4,168	227	6,693	361	2,596	149	7,114	372	6,197	315	3,716	185	811	453	638	770	1,044	1,033
Typhus	1	09					1	05					1	05	1	05								
Enteric fever	586	52	881	66	1,191	71	9	5	474	26	218	13	188	10	140	7	83	4	22	29	17	11	4	14
Relapsing Fever							439	24					1	05										
Continued fever	24	2	5	4	5	3			4	2	2	1	1	05			1	04			1			
Puerperal fever	104	9	101	8	186	11	161	9	137	7	111	6	156	8	159	8	64	3	18	23	14	4	5	10
Pulmonary tuberculosis ...							2,618	142	4,101	225	6,749	388	4,443	232	3,399	176	2,560	127	568	569	453	498	472	450
Cerebro spinal fever ...							1	05	55	3	132	8	27	1	20	1	69	3	7	19	16	10	17	13
Anterior polio-myelitis ...									27	1	38	2	61	3	40	2	21	1	1	2	7	3	8	3
Tuberculous meningitis ...									95	5	211	12	167	9	102	5	63	3	12	15	13	12	11	14
Tuberculosis of	Peritoneum and intestines								151	8	305	18	255	13	189	10	123	6	22	21	24	24	32	34
	Spinal column								56	3	51	3	81	4	61	3	61	3	12	15	13	11	10	11
	Joints								111	6	107	6	165	9	141	7	111	6	12	21	19	25	34	20
	Other organs								287	16	760	44	355	19	313	16	279	14	26	50	79	67	57	56
Ophthalmia neonatorum ...									70	4	421	24	510	26	201	10	151	7	19	22	40	35	35	25
Measles											12,981	740			1	05								
Primary Pneumonia ...											159	9	1,172	61	1,856	96	1,477	73	272	289	291	321	304	335
Influenzal pneumonia ...											388	22	758	40	902	47	516	26	37	121	126	193	39	30
Malaria											130	7	270	14	33	2	24	1	4	2	10	3	5	8
Dysentery											13	8	46	2	139	7	214	11	26	44	128	8	8	14
Trench fever											1	05												
Encephalitis lethargica ...											19	1	294	15	150	8	43	2	7	9	7	9	11	8
Polio encephalitis													4	2	6	3	2	1		2				
Puerperal pyrexia															213	11	241	12	71	39	44	46	41	37
Chicken pox															1,815	94								
TOTAL	7,001	627	6,853	516	18,099	1,137	13,120	713	16,787	920	28,505	1,638	21,967	1,148	21,167	1,093	14,853	737	3,605	2,719	2,620	2,856	3,053	2,895

* In order in which notification commenced—dates listed overleaf.

Annual figures since 1890 will be found in the report for 1933.

DATES ON WHICH NOTIFICATION COMMENCED :—

Infectious Disease Notification Act, 1889	...	...	...	...	12th Feb., 1890.
Pulmonary Tuberculosis—Voluntary Notification	...	...	...	...	5th Sept., 1905.
Cerebro Spinal Fever—Local Order (6 months)	...	...	...	...	25th Mar., 1907.
Tuberculosis (Pulmonary, Poor Law) Regulations, 1908	...	...	...	...	1st Jan., 1909.
" " Hospitals " 1911	...	...	...	...	1st May, 1911.
Cerebro Spinal Fever and Anterior Polio-Myelitis—Local Order (6 months)...	...	...	...	...	9th Oct., 1911.
Tuberculosis (Pulmonary, General) Regulations, 1911...	...	...	...	...	1st Jan., 1912.
Cerebro Spinal Fever and Anterior Polio-Myelitis—Local Order (permanent)	...	...	...	...	4th April, 1912.
" " " " " General Order, 1912	...	...	...	...	1st Sept., 1912.
Tuberculosis (all forms) Regulations, 1912	...	...	...	...	1st Feb., 1913.
Ophthalmia Neonatorum Regulations, 1914	...	...	...	...	1st April, 1914.
Measles and German Measles Order, 1915	...	...	...	...	1st Jan., 1916.
Encephalitis Lethargica and Polio-Encephalitis Regulations, 1918	...	...	...	...	1st Jan., 1919.
Pneumonia, Malaria, Dysentery, etc., Regulations, 1919	...	...	...	...	1st Mar., 1919.
Puerperal Pyrexia Regulations, 1926	...	...	...	...	1st Oct., 1926.
Malaria, Dysentery and Pneumonia Regulations, 1927 (revoking } Regulations of 1919)	...	...	...	...	1st Jan., 1928
Chicken Pox—Local Order (9 months)	...	...	...	...	21st Mar., 1928.

Table 10.

Results of Meteorological Observations during 1935.

Taken at 9 a.m. G.M.T.

		January	February	March	April	May	June	July	August	September	October	November	December	Year
PRESSURE.	Mean pressure — inches ...	30.293	29.731	30.158	29.806	30.084	29.865	30.116	29.980	29.847	29.832	29.648	29.629	29.915
	Departure from 25 years average ...	+0.300	—0.219	+0.244	—0.108	+0.122	—0.153	+0.147	+0.031	—0.182	—0.105	—0.268	—0.238	—0.036
	Greatest pressure — inches ...	30.546 (3rd)	30.385 (7th)	30.650 (8th)	30.335 (28th)	30.458 (8th)	30.325 (29th)	30.294 (31st)	30.394 (6th)	30.315 (8th)	30.382 (19th)	30.205 (25th)	30.481 (10th)	30.650 (Mar. 8)
	Least pressure — inches ...	29.438 (25th)	28.647 (25th)	29.376 (1st)	29.323 (17th)	29.807 (17th)	29.446 (5th)	29.550 (20th)	29.452 (28th)	29.219 (17th)	28.993 (3rd)	29.077 (17th)	28.718 (26th)	28.647 (Feb. 25)
	Extreme range — inches ...	1.108	1.738	1.274	1.012	0.651	0.879	0.744	0.942	1.096	1.389	1.128	1.763	2.003
RAINFALL	(39 years Clifton) Total rainfall at Bishopston — inches	0.97	3.30	0.71	4.81	0.89	3.54	0.67	2.04	7.75	6.34	5.91	4.02	40.95
	Departure from average — inches ...	—1.94	+0.83	—1.72	+2.49	—1.31	+0.98	—2.16	—1.64	+4.89	+2.36	+2.58	+0.50	+5.86
	Heaviest fall in 24 hours — inches ...	0.39 (11th)	0.48 (20th)	0.18 (1st)	0.58 (15th)	0.35 (20th)	0.61 (5th)	?	0.68 (30th)	1.45 (21st)	1.10 (9th)	1.10 (14th)	0.95 (27th)	1.45 (Sept. 21)
	Number of rainy days ...	9	21	9	22	11	20	7 ?	10	26	20	25	19	199
	Total rainfall at Frampton Cotterell — inches	0.85	3.10	0.83	4.33	0.81	3.87	0.64	3.77	7.07	6.26	5.49	3.82	40.14
	Departure from 25 years average — inches ...	—1.97	+0.88	—1.33	+2.45	—1.25	+1.73	—2.30	—0.10	+4.66	+2.96	+2.73	+0.09	+8.55
	Heaviest fall in 24 hours — inches ...	0.29 (11th)	0.47 (20th)	0.18 (5th)	0.70 (9th)	0.21 (20th)	1.29 (25th)	0.15 (18th-19th)	0.98 (8th)	1.33 (21st)	1.48 (5th)	0.95 (14th)	1.07 (27th)	1.48 (Oct. 5)
	Number of rainy days ...	11	20	9	19	10	20	7	12	22	20	23	20	193
	Departure from 25 years average — inches ...	—6.8	+5.5	—6.8	+4.3	—4.2	+7.7	—7.4	—4.1	+9.6	+3.3	+7.3	+0.7	+9.1
TEMPERATURE	Mean temperature (max. & min.) — degrees ...	41.1	43.2	44.25	47.8	51.15	60.0	64.5	62.7	57.3	50.2	44.1	38.3	50.4
	Departure from 25 years average — degrees ...	+1.3	+3.1	+1.95	+1.4	—2.35	+2.4	+3.1	+3.0	+1.4	+0.2	+1.4	—2.6	+1.2
	Maximum shade temperature — degrees ...	54.5 (2nd)	55.8 (2nd)	63.8 (20th)	63.0 (23rd)	74.8 (6th)	85.2 (23rd)	88.5 (13th)	83.5 (7th)	69.8 (1st)	62.2 (15th)	59.6 (3rd)	50.8 (31st)	88.5 (July 13)
	Minimum in screen — degrees ...	25.2 (28th)	22.4 (9th)	26.8 (9th)	29.7 (3rd)	28.0 (17th)	40.3 (9th)	45.0 (31st)	39.0 (28th)	35.7 (26th)	25.0 (21st)	24.5 (25th)	17.7 (23rd)	17.7 (Dec. 23rd)
	Extreme range — degrees ...	29.3	33.4	37.0	33.3	46.8	44.9	43.5	44.5	34.1	37.2	35.1	33.1	70.8
	Minimum on grass — degrees ...	17.0 (28th)	18.5 (9th)	20.0 (12th)	22.7 (3rd)	24.2 (17th)	37.0 (9th)	36.4 (30th)	31.4 (29th)	31.4 (7th)	21.2 (21st)	16.4 (25th)	11.8 (24th)	11.8 (Dec. 24th)
SUNSHINE, HUMIDITY, &c.	Hours of sunshine (estimated) ...	70½	79½	127	116	172½	188	258	209	122½	100½	73½	60½	1577½
	Days of bright sunshine ...	6	7	8	4	12	10	19	15	4	8	6	4	103
	Days entirely overcast ...	8	5	2	2	2	2	1	5	3	4	6	7	47
	Mean humidity ...	89%	89.6%	90%	81.7%	78.05%	81.9%	73.9%	78.1%	85.8%	90.9%	93.2%	91.5%	85.3%
	Days with fog ...	4	0	3	2	1	0	0	0	0	6	2	5	23
	Days with thunder ...	1	1	0	3	1	3	1	1	3	4	0	0	18
	Days lightning alone ...	0	0	0	0	0	0	0	0	0	0	0	1	1
	Frosty nights in screen ...	8	6	7	5	3	0	0	0	0	3	4	10	46
	Frosty nights on grass ...	17	13	12	6	5	0	0	0	0	4	13	21	91

VIII.—REPORTS OF SECTIONAL DEPARTMENTS.

1.—City Hospitals, Sanatoria and Institutions.

Ham Green Hospital and Sanatorium.

Frenchay Park Sanatorium and Orthopædic Hospital.

Southmead Hospital.

Stapleton Institution.

Eastville Institution.

Dental work in city hospitals and clinics.

2.—Department of Preventive Medicine.

3.—Public Analytical Laboratory Report.

4.—Port Sanitary Authority.

5.—School Medical Service.

6.—Mental Deficiency Report.

1935.

REPORT OF THE
Medical Superintendent,
HAM GREEN HOSPITAL AND SANATORIUM
including
NOVERS HILL HOSPITAL

B. A. I. Peters, M.D., Ch.B., D.P.H.

Ham Green, Pill, Nr. Bristol.

Ham Green Hospital.
Table of admissions and discharges, 1935.

Admitted as notified 1933		Remaining in hospital end of 1934	Admission as notified	DISCHARGED						DISCHARGED		Total	Mortality rate per cent.	DISCHARGED	Mortality rate per cent.	Remaining in hospital at end of 1935
				Diagnosis confirmed		With super-added infections		Total		Diagnosis not confirmed.						
				recovered	died	recovered	died	recovered	died	recovered	died					
762	Scarlet fever	...	87	800	706	10	26	...	742	1.3	29	3	32	9.4	86	
813	Diphtheria	...	136	773	698	10	24	...	732	1.3	127	6	133	4.4	38	
8	Enteric fever	...	1	8	3	...	...	...	3	...	3	1	4	25	...
63	Whooping cough	...	2	12	12	...	...	1	13	7.7	2	...	2	...	...
83	Measles	...	...	165	109	6	4	2	121	6.6	2	...	2	...	42
71	Erysipelas	...	3	74	66	2	...	...	68	2.9	5	...	5	...	6
14	Broncho-pneumonia	...	3	18	18	...	...	...	18	...	4	...	4	...	3
2	Influenzal pneumonia	...	1	2	4	...	...	...	4	...	...	...	...	...	...
4	Influenza	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22	Lobar pneumonia	...	1	17	15	2	1	...	18	11	5	...	5	...	1	
2	Puerperal fever	...	...	5	4	1	...	...	5	20	...	...	...	...	...
3	Puerperal Pyrexia	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8	Chicken pox	...	...	11	10	...	...	...	10	...	...	...	...	...	1
1	Dysentery	...	...	6	4	1	...	...	5	...	...	...	...	...	2
2	German measles	...	1	17	53	...	...	...	53	...	...	...	...	...	1
...	Malaria	...	...	2	7	...	...	...	7	...	1	...	1	...	...
45	Mixed infections, other diseases, observation cases	...	3	46	14	...	1	...	15	...	12	...	12	...	...
3	Cerebro-spinal fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1	Anterior-poliomyelitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1	Enceph. lethargica...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1,908	TOTALS	...	238	1,956	1,723	32	56	3	1,814	...	190	10	200	...	180	

A.—HAM GREEN HOSPITAL AND SANATORIUM.*Diphtheria.*

732 cases of diphtheria completed their treatment during the year, of which 10 died, giving a death rate of 1·3 per cent., the lowest ever recorded in this hospital. Of the fatal cases two were moribund and died within four hours of admission and one case was suffering from severe chronic nephritis. 42 per cent. had been ill over three days before admission, compared with 47 per cent. in 1929, a slight improvement. This figure shows that a high proportion of cases for various reasons still arrive at hospital so late that they may be hopelessly poisoned by the disease. As in the malignant type of disease, which is still present in Bristol, antitoxin must be given within two or three days of the onset, or a fatal issue is likely to occur. This point stresses the importance of preventive inoculation, as the most able doctors may be deceived by the malignant type of disease in its early stages. It is very difficult to recognise.

Below are given the hospital experience for the last 30 years. Our new accessory method of treatment we started in February, 1930. The figures suggest that it is of value.

Diphtheria cases.

Years	Total discharges	Died	Death rate %
1905-09 ...	1,956	109	5·5
1910-14 ...	1,852	82	4·4
1915-19 ...	1,684	90	5·4
1920-24 ...	3,439	200	7·6
1925-29 ...	3,131	179	5·7
1930-35 (6 yrs)	4,533	125	2·7

Severe diphtheria cases only.

Years	Number of severe cases	Percentage of total discharges	Death rate on severe cases only
1928-29 (2 yrs.)	243	19	27·7
1930-31 (2 yrs.)	364	18	14·4
1932	108	22·5	17·0
1933	95	16·4	23·0
1934	82	12	18·0
1935	83	11	12·0

In 133 additional cases (15 per cent. of cases discharged) the original diagnosis was not confirmed. Two were cases of agranulocytic angina.

Scarlet fever.

This disease was more severe last year than in recent years, as 10 deaths occurred out of 742 cases, a rate of 1·3 per cent.

The disease has shown some unusual features during the last 18 months. A considerable increase occurred in the autumn of 1934. Up to the end of that period the disease was extremely mild with a very low incidence of serious complications. In the early spring, the disease became more severe with many septic cases and a high incidence of aural complications, of which four per cent. developed acute mastoiditis. Renal complications occurred in three per cent. of the cases, causing a fatal issue in three cases.

A certain form of treatment which was introduced several years ago as a preventive in this serious complication, was followed by a great diminution of renal complications but, as it seemed to be failing to prevent it in some cases during the present epidemic, the position is being investigated afresh. Another feature was the great increase in return cases (25 or 3·3 per cent.) more than double our usual experience. Fifteen cases developed relapsing attacks whilst in hospital. Several patients were re-admitted with second attacks within three months of leaving hospital, a very unusual occurrence. Another striking feature was the occurrence of extensive mastoid disease with an almost complete absence of local indications. Great and painful enlargement of neck glands was also evident. The whole clinical picture was one of streptococcal infection with poor pyogenic reaction. The medical officer of health of the adjacent district of Long Ashton has informed us that scarlet fever in his area is showing exactly the same unusual phenomena, starting a year after our epidemic.

Measles.

165 cases in young children, mostly complicated with broncho-pneumonia, were admitted during the year. We found the drug S.U.P. 36 extremely useful in cutting short an attack of broncho-pneumonia if the disease was not too far advanced. The fatal cases (eight) had mostly been ill 10-14 days, after which time any specific treatment is likely to be of little avail.

Whole blood from a parent was used in several cases in 20 c.c. doses to prevent attacks in contacts, in every case with complete success. In no case was this refused by a parent if so requested. The provision of convalescent measles serum in any quantity is extremely difficult owing to the small number of adult patients as possible donors.

Erysipelas.

66 cases were discharged and two died, a death rate of under three per cent. The average mortality from the Ministry of Health's figures is eight per cent. We think the special methods employed are of value in saving life and reducing the duration of the illness.

Pneumonia.

39 completed cases are recorded with two deaths. In the severest lobar cases antipneumococcal serum was used with apparent benefit.

Cross infections.

15 patients contracted a second disease whilst in hospital (·75 per cent. of those discharged) namely, eight scarlet fever, three rubella, and four chicken-pox.

Operations.

92 cases had operations which required a general anaesthetic including 33 mastoids, four appendi cectomies and eight empyemas. Three phrenic avulsions and one thoracoplasty were performed in the sanatorium. Most of the thoracic surgery is carried out on patients temporarily transferred to Southmead.

Staff illnesses.

Three cases of scarlet fever occurred amongst new nurses on the staff who gave a negative Dick test on admission. We were of the opinion that the material being obtained at that time for the Dick test was not reliable as it is a very unusual occurrence to get a case of scarlet fever in a Dick negative reactee.

B.—NOVERS HILL HOSPITAL.

204 convalescent patients were under treatment at this hospital in the early part of the year. The hospital was closed from the middle of summer until the end of the year. It had to be re-opened to cope with the measles epidemic, and considerable difficulty was found in assembling a staff at short notice.

I wish to acknowledge the invaluable help so willingly given in pathological investigations by Professor Walker Hall and his staff in the department of preventive medicine.

C.—HAM GREEN SANATORIUM.

Table of admissions and discharges, 1935.

Remaining in sanatorium at end of 1934	Admitted	Discharged	Died	Remaining in sanatorium at end of 1935
141	292	193	101	139

Return showing the results of observation of doubtfully tuberculous cases discharged during the year.

Diagnosis on discharge from observation.	Pulmonary tuberculosis						Non-pulmonary tuberculosis						Totals		
	Stay under 4 weeks.			Stay over 4 weeks.			Stay under 4 weeks.			Stay over 4 weeks.					
	M.	F.	C.	M.	F.	C.	M.	F.	C.	M.	F.	C.	M.	F.	C.
Tuberculous
Non-tuberculous	3	3	...	...	...	...	...	...	...	3	3	...
Doubtful	3	3	...	...	...	...	...	...	...	3	3	...
Totals	6	6	...	...	...	...	...	...	...	6	6	...

Three cases, one of whom died, are not included in this table, as they did not complete 28 days' treatment.

Return showing the immediate results of treatment of definitely tuberculous patients discharged during the year.

Classification on admission to the Institution.		Condition at time of discharge.	Duration of residential treatment in the institution.															Grand Totals
			Under 3 months.			3-6 months.			6-12 months.			More than 12 months.			Totals			
			M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	
PULMONARY TUBERCULOSIS	Class T.B. minus.	Quiescent ..	3	2	..	17	17	..	4	2	..	2	1	..	26	22	..	48
		Not quiescent ..	4	3	..	5	..	..	..	..	1	..	..	10	3	..	13	
		Died in institution	2	2	..	..	1	..	..	1	..	..	2	..	2	6	..	8
	Class T.B. plus Group i.	Quiescent ..	1	..	..	1	1	..	..	..	..	..	..	..	2	1	..	3
		Not quiescent ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
		Died in institution	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Class T.B. plus group ii.	Quiescent ..	..	..	..	4	..	..	2	2	..	..	..	..	6	2	..	8
		Not quiescent ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
		Died in institution	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Class T.B. plus group iii.	Quiescent ..	..	..	..	11	5	..	9	6	..	2	2	..	22	13	..	35
		Not quiescent ..	10	6	..	11	13	..	4	5	..	3	2	..	28	26	..	54
		Died in institution	17	11	..	9	7	..	7	5	..	12	2	..	45	25	..	70
NON-PULMONARY TUBERCULOSIS	Bones and Joints	Quiescent ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
		Not quiescent ..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	1
		Died in institution	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Abdominal	Quiescent ..	..	..	..	1	2	..	..	3	..	..	..	..	1	5	..	6
		Not quiescent ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
		Died in institution	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1
	Other Organs	Quiescent ..	1	..	..	..	..	..	..	..	..	..	1	..	1	1	..	2
		Not quiescent ..	..	..	..	..	..	..	2	..	..	..	..	..	2	..	..	2
		Died in institution	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Peri- pheral glands	Quiescent ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
		Not quiescent ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
		Died in institution	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

28 patients, of whom 21 died, are not included in this table, as they did not complete 28 days treatment.

1935

**REPORT OF THE
Resident Medical Officer

FRENCHAY PARK SANATORIUM
and ORTHOPÆDIC HOSPITAL**

Margaret W. Jenkins, M.B., Ch.B.

Frenchay Park, Bristol.

**FRENCHAY PARK SANATORIUM AND
ORTHOPAEDIC HOSPITAL.**

Table of admissions and discharges 1935.

Remaining from 1934	Admitted	Discharged	Deaths	Remaining on 31/12/35
89	143	153	4	75

During the year 143 cases were admitted, including 66 children for observation or on account of delicacy and 20 orthopaedic non-tuberculous cases. Of the observation group 55 were non-tuberculous cases. The analysis of discharges shows that 56 tuberculous cases (82 per cent.) were discharged with the disease quiescent. There were four deaths. Altogether 123 operations were carried out including 14 of a major character. There was a marked increase in the number of massage and sunlight treatments given. The panel of consulting and visiting surgeons and physicians remain as formerly. Frequent and regular visits were paid to the institution by the tuberculosis officer (Dr. C. J. Campbell Faill) and by the visiting surgeons (Mr. Chitty and Mr. Pridie). There have been no structural alterations or building additions during the year.

Analysis of discharges during 1935.

1934	Type of case	Quiescent	Non-quiescent	Died	Non-T.B.	Doubtful	1935
19	Pulmonary tuberculosis ...	13	3	1	—	—	17
32	Non-pulmonary bone ...	9	2	2	—	—	13
20	Tuberculous peritonitis ...	14	1	1	—	—	16
19	Tuberculous adenitis ...	16	1	—	—	—	17
2	T.B. otitis media	1	—	—	—	—	1
1	T.B. iritis ...	2	—	—	—	—	2
—	T.B. skin ...	1	—	—	—	—	1
36	Observation and delicate children	—	—	—	55	11	*66
42	Orthopaedic non-tuberculous cases ...	20	—	—	—	—	**20
							153

* This group does not include any bone or joint lesion.

** This group includes : Deformities due to infantile paralysis, 3 ; to spastic paralysis, 2 ; to talipes, 2 ; congenital dislocation of the hip joint, 2 ; transient arthritis, 2 ; septic arthritis, 1 ; rickets, 8.

1934	Treatment statistics.	1935
14	Major operations under general anaesthesia ...	14
40*	Minor " " " " " ...	27
68	Operations under gas anaesthesia ...	44
20	" " local " " " ...	38
224	X-rays taken ...	220
1733	Massage treatments ...	3597
60	Plaster splints made ...	61
450	General sunlight treatment ...	678
184	Local " " " " " ...	790

* This group includes 14 cases of removal of tonsils and adenoids.

1935

**REPORT OF THE
Medical Superintendent
SOUTHMEAD HOSPITAL**

P. Phillips, M.Sc., M.D., Ch.B.

Southmead, Westbury-on-Trym, Bristol.

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SOUTHMEAD HOSPITAL.

During 1935 no large extensions have been added to the hospital, but many rearrangements have been completed, and useful plant installed. The chief of these are as follows :—

- (1) A new and larger dispensary situated near the main corridor.
- (2) The equipment of a "clinical laboratory" in the former dispensary.
- (3) A new coal bunker and incinerator.
- (4) A refrigerator with two chambers and ice-making plant adjacent to the kitchen.
- (5) A refrigerating plant in the mortuary.
- (6) Provision of portable X-ray apparatus for use with fracture and orthopaedic cases.
- (7) Special anaesthetic apparatus in both maternity wards.
- (8) An electrocardiograph for use in the medical wards.

All these changes have materially assisted the working of the hospital, and are steadily proving their usefulness. The beds available were classified as follows :—

Medical	...	...	...	144
Surgical	...	...	...	72
Children	...	...	...	42
Chronic sick	...	...	...	103
Tuberculosis	...	...	...	68
Maternity	...	...	...	44
Cots in maternity	...	...	...	37
				510

The average number of beds occupied daily was 452 :

(a) Highest (on 29th March, 1935)	...	494
(b) Lowest (on 9th June, 1935)	...	404

During the year 3,350 cases were discharged, whilst there were 472 deaths. The corresponding figures for 1934 were 3,165 discharges and 481 deaths. Statistics regarding the duration of stay of these patients were as follows :

(a) Under four weeks	...	...	2,591
(b) Over four weeks but under thirteen...	...	...	856
(c) Thirteen weeks or more	...	...	375

Massage and electrical department.

In-patients.	1934	1935	Increase	Decrease
Total massage treatments ...	5,366	4,237	...	1,129
Total electrical treatments...	1,493	1,881	388	...
Radiant heat treatments ...	968	2,288	1,320	...
Remedial exercises, S.R.E. ...	109	530	421	...
Total treatments	7,936	8,936	2,129	1,129

It will be seen that there are increases in all sections of this departments' work, except massage.

There are still only two masseuses employed, and this is quite inadequate to carry out all the work that is necessary. Many patients require treatment by artificial sunlight, infra-red light and diathermy, and with these additions to ordinary electrical treatment and massage at least another officer is an urgent necessity.

X-ray department.

The same arrangements for this work exist as in 1934. The work has again increased and the number of X-ray examinations in 1935 reached a total of 2,307. This number compares with 1,727 in the previous year—an increase of 580. When the central clinic is completed and our present installation removed there we look forward to the provision of a new shock-proof apparatus.

During the past year a shock-proof portable X-ray apparatus has been provided capable of working from power points in the surgical wards. This is proving invaluable in the treatment of fracture and orthopaedic cases, which can now be X-rayed without moving them from the wards.

Statistics relating to patients.

	Remain- ing 1934	Admiss- ion	Dis- charges	Deaths	Opera- tions	Remain- ing 1935
Acute infectious diseases ...	—	49	46	3	—	—
Influenza	—	5	5	—	—	—
Tuberculosis (pulmonary) ...	48	73	67	22	—	32
„ (non-pulmonary)	10	76	60	8	39	18
Malignant disease	24	220	90	120	24	34
Rheumatism (acute)	5	30	28	—	—	7
„ (chronic non-articular)	11	15	10	—	—	16
„ (articular)	5	11	8	—	—	8
Venereal disease	—	20	12	6	—	2
Puerperal fever	—	—	—	—	—	—
„ pyrexia	—	5	5	—	—	—
Other diseases and accidents of childbirth	3	116	117	—	93	2
Connected with childbirth Maternity	38	Mothers 942 Babies 852	Mothers 918 Babies 820	Mothers 2 Babies 10	—	82
Mental diseases (senile dementia)	—	6	5	1	—	—
„ „ (other types) ...	—	10	10	—	—	—
Senile decay	6	5	6	—	—	5
Accidental injury and violence	25	297	244	18	126	60
Diseases of nervous system and special senses	64	219	208	25	109	50
Diseases of respiratory system...	45	209	157	59	13	38
Diseases of circulatory system...	61	316	168	137	5	72
Diseases of digestive system ...	20	158	152	9	91	17
Diseases of genito-urinary system	12	165	118	41	96	18
Skin and cellular tissue ...	17	42	49	—	3	10
Congenital deformities ...	9	13	18	—	5	4
Early diseases of infancy (premature birth) ...	3	15	12	3	—	3
Other diseases	5	25	17	8	—	5
TOTALS ...	411	3,894	3,350	472	604	483

Radium treatment.

Any cases requiring treatment by radium have been transferred to the radium centre at the Bristol Royal Infirmary, as in former years. During 1935 eleven such patients were transferred, seven of these were suffering from malignant disease of the tongue and mouth, three of the skin and one of the oesophagus.

Medical section.

Amongst medical causes of admission, diseases of the circulatory system were highest, with 316 cases. This group of diseases also gave rise to the largest number of deaths. Diseases of the nervous system come next, closely followed by respiratory diseases. There were 158 admissions due to digestive disturbances and 91 of these cases received operative treatment. Seventy-three cases of pulmonary tuberculosis were investigated, and these together with 48 patients remaining from 1934 give a total of 121 cases treated. Various forms of rheumatism account for 56 admissions, whilst there were only five cases of influenza.

At the beginning of the year Professor C. Bruce Perry was appointed physician to the hospital, and for the greater part of the year one male and one female ward were placed under his control. An assistant medical officer has been made responsible to him and the arrangement is working satisfactorily.

An electrocardiograph has been installed and this is proving extremely valuable in the investigation of suitable cardiac cases.

"Chronic cases" still present a problem, and the present O ward in which female chronic patients are treated can hardly be considered satisfactory. It was originally designed as a temporary block during war time and the need for its replacement is urgent.

Surgical section.

The total number of operations performed under general or spinal anaesthesia during 1935 was 604, an increase of 143 compared with the previous year. There were no deaths under anaesthetics. We are again indebted to the Bristol Voluntary Blood Transfusion Service for the donors supplied in two cases. The value of this service cannot be over estimated. Cancer in its various forms accounted for the admission of 220 patients. The fact that only 24 of these cases proved operable shows the advanced nature of the disease in the majority. Many had already received operative treatment before admission here, and 120 died. This figure compares with 115 deaths in the previous year.

Genito-urinary cases numbered 165, and of these 96 underwent operation. The treatment of these patients is very specialised and in the near future it is hoped that a separate section may be established under a surgeon specialising in this work.

Orthopaedic section.

During 1935 it will be seen from the statistical return that 297 patients were admitted as a result of "accidental injury and violence." In 1934 there were 270 such cases. There were also 39

operations on cases of surgical tuberculosis, which altogether numbered 76.

A portable X-ray unit has been installed during the year and has already proved its worth. Many excellent results have been obtained with spinal grafts in both male and female cases, whilst the use of the Smith-Petersen fixation method in cases of fracture of the neck of the femur is also giving gratifying results. A total of 142 operations were performed in this section.

Gynaecological department.

Ninety-three operations were performed in this department compared with 71 last year. Of these, 77 were cases of incomplete abortion requiring curettage. This is an increase of 21 on the previous year and many of these cases are not due to natural causes. Such increases stress the need for more control and if possible the ultimate notification of abortion or miscarriage.

Maternity department.

The limit of safety laid down in the report last year as far as numbers is concerned, has been passed. During 1935, 838 maternity cases were treated—an increase of 111 on the previous year. Consequently, either new accommodation must be provided, or the number of admissions limited in the near future. The hospital ante-natal clinic was attended by 614 women who recorded 2,523 attendances. A post-natal clinic has been working throughout the year, and though its numbers are increasing the attendance has not been as good as at the ante-natal clinic.

The details of hospital cases are as follows :—

Total number of cases (17 twins)	...	...	838
Number of live births	...	...	826
„ still births	...	...	29
Ophthalmia neonatorum	...	...	nil
Puerperal sepsis	...	...	nil
„ pyrexia	...	...	5
Number of maternal deaths	...	...	2

Maternal mortality has so focussed attention that we are apt to forget the difficult cases relieved and saved by treatment. In the above series, whilst one deplores even two deaths, it must be pointed out that 256 cases required medical aid. About forty of these patients needed the carrying out of difficult obstetrical manoeuvres involving considerable risk, and fraught with potential catastrophe. The district sister reports that 79 cases were delivered in their own homes. Twelve pupil midwives were trained for the C.M.B. examinations at which all were successful. Lectures for these nurses have now been centralised at the University. This arrangement is satisfactory and will save the pupils much time and expense.

Ear, nose and throat department.

In this section 100 operations were performed as compared with 79 in 1934. Of these, 83 were for the removal of tonsils and adenoids

and the remainder for other ear, nose and throat conditions. In addition, several cases with complicated lung conditions were investigated by X-ray following lipiodol injection of the lungs.

Dental work.

This has been carried out on the same basis as in previous years. The amount of work still increases, and many necessitous patients have been supplied with artificial dentures.

Examinations and teaching.

During 1935 the hospital has again been a centre for the examinations of the General Nursing Council. Eighteen nurses completed their training in this year.

In June and December the examinations in clinical medicine of the University of Bristol were also held here. During term-time demonstrations in medicine have been given here by Professor C. Bruce Perry, whilst the course in medicine for dental students was given by Dr. O. C. M. Davis. Medical students are now accepted in residence for midwifery training. Instructional films have been shown from time to time to nurses and midwives.

Future developments.

The present nurses home is out of date and is quite inadequate to accommodate the increasing number of nurses that will be necessary as the hospital deals with more acute cases. The provision of a new home is an urgent necessity and must inevitably precede any new extensions of wards or departments. We look forward to a new building in the near future.

1935

**REPORTS OF THE
Medical Officers**

STAPLETON INSTITUTION

S. Datta, M.D., Ch.B.

EASTVILLE INSTITUTION

J. A. Lanson Roberts, M.B., Ch.B.

Institutions administered by the Public Assistance Committee.

STAPLETON INSTITUTION.

1934	Admissions and discharges.	1935
	Patients resident on 31st December, 1935 (males,	
878	359; females, 529)	888
574	Admitted during year	496
411	Discharged during year	486
552	Certified under Lunacy Acts	570
143	Certified under Mental Deficiency Acts ...	148
183	Not certified	170

Admissions and discharges.

Since 1933 the rate of admissions shows a slight decline. In spite of this the total number of resident patients has increased to nearly nine hundred. The falling off of the admission rate is probably due to the operation of the Mental Treatment Act 1930, under whose provisions a much greater number of patients are now directly admitted to the Mental Hospital than before. However, the increase in the total number of resident patients suggests that at no distant date in the future the institution will be full to capacity.

The discharges were made up as follows :—

To the Bristol Mental Hospital	...	184
„ other institutions	... ..	81
Relieved or recovered	... ..	82

Training and employment of patients.

A certain proportion of the patients are employable. Occupation is provided for male patients in boot repairing, tailoring, bakery, farm, garage, boilers and domestic work. Female patients are employed in domestic work, sewing and laundry.

	Male.	Female.	Total.
Total employed ...	196	163	359
Not employed ...	163	366	529
Total in residence ...	359	529	888

Ophthalmic treatment.

Mr. R. Garden continues to find abundant scope for his services among patients of all ages. His expert opinion on ophthalmic findings on neurological cases have at times been of inestimable value. I am happy to state that it has been possible to provide a certain amount of necessary fittings and equipment for the ophthalmic room, through the kindness of the Stapleton Management Sub-Committee.

Central heating.

A new scheme of central heating at considerable cost has been approved, and work is proceeding for the erection of a plant sufficient for the purpose of heating all the blocks of the institution. This

will be a great boon especially to the hospital wards, and other blocks which are at present very inadequately heated.

Infectious diseases.

One case of erysipelas, three of diphtheria and one case of enteric, were notified during the year. Another year of absolute immunity from dysentery has to be recorded.

Deaths.

139 patients died during the year, 94 of whom were over 70 years of age. The causes were :—

Senility, with hypostatic congestion of the lungs, etc.	99
Cerebral vascular degeneration	18
Acute respiratory conditions	4
Carcinoma	3
Miscellaneous	15

EASTVILLE INSTITUTION.

Table A.

1934	Admissions and discharges.	1935
325	Admissions to sick wards from—other parts of institution	407
576	—casual wards and outside	715
901	Total	1,122
397	Discharges from sick wards to—other parts of institution	545
1	—Ham Green Hospital	2
85	—Southmead Hospital	90
65	—Stapleton Institution	88
206	—Outside	201
5	—Removals	2
759	Total	928
147	Deaths	175

During 1935, 1,028 persons were admitted to the institution, 38 more than last year. 1,122 persons were admitted to the sick wards (including 715 direct), the total comprising 685 males and 437 females. Admissions to the male sick wards increased from 543 to 685 in 1935, and in the female sick wards from 358 to 437, a total increase of 221 admissions. The sick wards contain 190 beds of which an average of 173 have been occupied.

From the able-bodied section of the institution 956 male and 203 female cases have been given treatment (other than treatment in the sick wards), and 215 males and 192 females have been admitted to the sick wards.

Five babies and four mothers were admitted during 1935, one child and one mother removed from Pontypridd Institution, and four children and three mothers from Southmead Hospital. One baby was discharged without her mother to the Children's Homes, and one baby with mother outside.

The disease groups of discharges and deaths are given in tables B and C.

Table B.

Discharges.						1935
Acute infectious disease	...	...	...	...	...	17
Influenza	...	...	...	...	...	63
Tuberculosis (pulmonary)	...	...	...	...	...	6
Malignant disease	...	...	...	...	...	18
Rheumatism (non-articular manifestations of so called "rheumatism")	...	...	...	...	...	26
" (Chronic arthritis)	...	...	...	...	...	8
Venereal disease	...	...	...	...	...	2
Senile dementia	...	...	...	...	...	29
Senile decay	...	...	...	...	...	196
Disease of the Nervous system and sense organs	...	...	...	...	...	108
" " Respiratory system	...	...	...	...	...	130
" " Circulatory	...	...	...	...	...	108
" " Digestive	...	...	...	...	...	16
" " Genito-urinary	...	...	...	...	...	24
" " Skin	...	...	...	...	...	101
Other diseases	...	...	...	...	...	76
Total						928

Deaths.

There were 175 deaths in the institution during the year, the average age at death being 76.1 years.

Table C.

1934	Cause of death.						1935
56	Senility	...	...	...	...	...	62
11	Malignant disease	...	...	...	...	...	10
3	Acute illness	...	...	...	...	...	7
26	Disease of nervous system	...	...	...	...	...	30
32	Disease of respiratory system	...	...	...	...	...	37
15	Disease of circulatory system	...	...	...	...	...	23
3	Disease of genito-urinary system	...	...	...	...	...	1
1	Other diseases	...	...	...	...	...	5
147	Total	...	...	...	...	...	175

Casuals.

During 1935, 303 casuals were medically examined at the monthly examinations, and in addition 338 casuals were seen by the medical officer for various complaints, a decrease of 80 compared with the number treated in 1934. The number of casuals requiring admission to city institutions and hospitals has also decreased from 186 to 162, a decrease of 24, and were dealt with by transfer to : Eastville, 137 ; Stapleton, 13 ; Southmead Hospital, 12, for the reasons stated in the following table :—

Table D.

1934	Admission from casual wards to city hospitals and institutions.					1935
8	Aged and infirm	...	...	...	...	10
41	Skin conditions	...	...	...	...	30
17	Septic feet	...	...	...	...	14
22	Abscesses and septic conditions	...	...	...	...	18
5	Ulcerated legs and varicose veins	...	...	...	...	5
4	Venereal disease	...	...	...	...	1
3	Cardiac disease	...	...	...	...	3
18	Chest conditions	...	...	...	...	19
7	Rheumatism	...	...	...	...	3
7	Influenza	...	...	...	...	7
4	Malignant disease	...	...	...	...	3
11	Mental disease...	...	...	...	...	15
39	Other diseases	...	...	...	...	34
186	Total	...	...	...	...	162

1935

**REPORT OF THE
Joint Institutions and Schools
DENTAL SURGEON**

**DENTAL WORK IN CITY HOSPITALS
AND CLINICS**

Hanbury Hazell, L.D.S., R.C.S. (Eng.)

DENTAL TREATMENT.

Summary for 1935.

Institution.	Extractions.		Anaesthetics.		Scaling	Dress- ing	Other Opera- tion	Fillings.	
	Temp.	Perm.	Local	General				Temp.	Perm.
Southmead ...	17	455	159	57	2	10	47	—	5
Ham Green ...	3	221	129	8	7	7	50	—	6
Frenchay ...	141	24	32	45	4	—	167	—	17
Children's Homes...	70	9	40	3	9	2	157	—	19
Eastville ...	—	175	75	—	3	—	15	—	—
Stapleton ...	1	241	43	13	109	—	309	—	—
Hortham ...	33	344	76	4	55	4	90	—	15
Maternity and child welfare:									
Expectant mothers }	—	634	37	245	5	2	19	—	8
Nursing mothers }	—	1865	37	396	4	13	23	5	23
Infants ...	3250	—	168	1133	—	24	203	92	—
Total ...	3515	3968	796	1904	198	62	1080	97	93

In addition, 207 patients were supplied with dentures (complete or partial). Southmead Hospital (20), Ham Green (7), tuberculosis dispensary (6) and maternity and child welfare clinics (174).

In selected cases of arthritis at Southmead Hospital in the past autogenous vaccine therapy, after teeth extraction, has shown such encouraging results that this form of treatment has been continued successfully, where dental sepsis points to the focus of remote infection. It has been noted that the greatest benefit by this treatment is obtained in patients under middle age.

Visits to *Frenchay Sanatorium* were made at varying intervals as necessity demanded and very few urgent cases were recorded. At the *Children's Homes* considerably less dental treatment was necessary except for a few new arrivals. As the majority of patients at Hortham Colony need dental treatment and one session per fortnight was found insufficient to meet the demands of others than the most urgent and suffering cases, it was necessary at the latter part of the year to visit the colony each week. While one could wish for better, quite good attendances were recorded at the weekly session held at Southmead for maternity and child welfare cases. However, there are still some who break appointments lightly and without notice.

A new dental appointment was made during the year, so that complete sessions will be devoted now to mothers and infants at all the dental centres of the city where numbers of these patients have been awaiting treatment. This appointment will relieve the school dental surgeons of duties which were beginning to impede the attention to school children.

No gross dental sepsis was observed at *Stapleton Institution* and it is perhaps too much to expect to see clean and healthy mouths in these patients, who, if they had an early interest in mouth hygiene, have forgotten it long since.

Dentures are being supplied to the mothers and to the various institutions from several outside sources. It is thought that an internal scheme could be profitably arranged for the supply of dentures to these patients.

The dental work at *Ham Green Hospital and Sanatorium* and at *Eastville Institution*, which continued as in previous years, calls for no special comment.

1935

REPORT OF THE
Director
OF
PREVENTIVE MEDICINE
LABORATORIES

I. Walker Hall, M.D., Ch.B.

Pathological and Bacteriological Division,
Department of Preventive Medicine,
Canyng Hall, Clifton,
Bristol.

STAFF, 1935.

Director of Preventive Medicine Laboratory :

I. Walker Hall, M.D., Ch.B.

Assistants :

J. D. A. Gray, M.B., Ch.B., B.Sc., F.R.C.P.

Doris M. Stone, M.D., D.P.H.

Grizel R. Borthwick, B.Sc., Ph.D.

F. Nicholls

Laboratory staff :

G. D. Harper

T. A. Walters

S. Foote

R. Nethercot

F. E. Stephens

S. G. Andrews

Secretary ... Bessie Bell, B.A.

Assistant ... Marjorie Rumins

Department of Preventive Medicine.

Pathological and bacteriological examinations, 1935.

Nature of specimen examined					Number
Diphtheria :	Swabs.—primary	...	...	...	3,853
	„ —repeat	...	...	...	17,269
	Virulence test	...	...	...	21
Sputum :	Tuberculosis	...	...	...	1,387
	Other	...	...	...	5
Blood :	Enteric or other fevers	...	...	...	72
	Malaria	...	...	...	11
	Cell counts	...	...	...	71
	Cultures	...	...	...	15
Faeces :	Enteric fever	...	...	...	46
	Dysentery	...	...	...	52
	For occult blood	...	...	...	8
	General	...	...	...	13
	Tuberculosis	...	...	...	12
	Other conditions	...	...	...	6
Urine :	Enteric fever	...	...	...	19
	Other conditions	...	...	...	239
	Tuberculosis	...	...	...	3
	For urea concentration	...	...	...	56
Vaccines :	...	...	...	...	4
Milks :	Tuberculosis	...	...	...	539
	Counts	...	...	...	488
	Other factors. (P.T. milks)	...	...	...	115
	For dysentery	...	...	...	2
	Ice cream	...	...	...	43
	Ice cream powders	...	...	...	3
Rats	...	...	...	...	904
Tissues	Animal	...	...	...	82
	Human	...	...	...	107
Cerebro-spinal V.D.	or other fluids	...	...	...	87
	Blood—Wasserman	...	...	...	2,703
	Complement fixation for G/c.	...	...	...	689
	Gold curve	...	...	...	14
	Cell counts, protein, etc.	...	...	...	18
	Films	...	...	...	2,344
Various :	Blood for urea	...	...	...	69
	„ „ leptospriata	...	...	...	1
	„ sugar	...	...	...	44
	„ for Van den bergh...	...	...	...	3
	„ „ Icterus index	...	...	...	1
	„ grouping	...	...	...	5
	„ for calcium phosphate	...	...	...	7
	„ „ laevulose content	...	...	...	1
	Pus	...	...	...	59
	Swabs for haemolytic streptococci	...	...	...	199
	Lecithin estimations	...	...	...	15
	Foods	...	...	...	27
	Swabs for special examination	...	...	...	18
	Bottles of Tuberculin B.E.	...	...	...	5
	Faeces for bile	...	...	...	1
	Test meal	...	...	...	21
	Faeces for vaccine	...	...	...	1
	Resting juice for vaccine	...	...	...	1
	Swab for meningococci	...	...	...	1
	Faeces for food poisoning	...	...	...	13
	Parasites from restaurant counter	...	...	...	1
	Post mortem (tissues)	...	...	...	1
	Pigeons	...	...	...	3
	Smear of discharge from septic finger...	...	...	...	1
	Swab from bone cavity	...	...	...	1
	Waters	...	...	...	50
	Serum from convalescent measles	...	...	...	2

Preventive Medicine Laboratory.

At the end of a 30 years' close association with the Public Health Committee, it may be considered permissible to voice an appreciation of the courteous progressiveness that has characterised and facilitated the relationship between administrative and laboratory workers. This combination of lay and scientific attitudes prompts indeed a promissory hope for continued vision and development. Possibly near at hand lies the dawn of other conceptions ; such as the call for closer co-operation between general and preventive medicine, the broadening of post graduate provisions for the practitioner and an extended diffusion of the rules of hygiene among the school going populace. With these in mind, it cannot, perhaps, be too frequently repeated that a department of preventive medicine is not solely concerned with routine laboratory examinations or consultations with practitioners and the clinical officers of the various city institutions. It has, in addition, a paramount duty in the transference of discoveries into application and the enthusing and stabilising of the preventive medicine interests of every official engaged in public health work. It is called upon, therefore, to initiate and to provide means of communicating newer knowledge as well as to promote and ensure accurate journalistic and home information. These functions involve outlays that are even now not fully contemplated and it may be that their economic consequences have been also but dimly foreshadowed. When, however, their early effects become evident, the ultimate savings in public health disbursements may not only attract but engage the serious attention of the economist. Not the least of the benefits arising from such intelligent anticipatory finance will be the lessening of home anxieties and personal sufferings, with its consequent stimulus to the verve and capacity of the individual unit of the national make up.

Milk.

The routine examination of 490 specimens of milk from the standpoint of numerical bacterial contents has evidenced a considerable improvement in the general supply, when compared with the findings of previous years. This may be noted from the following table. As before, July to October proved to be the critical months for the producer.

Milks not complying with the prescribed conditions :				
Year	Certified	Grade A.T.T.	Grade A.	Pasteurised
1935	3·6%	7·9%	3·3%	3·3%
1934	10·7%	13·2%	—	40·7%

Pasteurised milk.

Milk from the various plants in the city area have been systematically examined and the results have evidenced a decided improvement upon those of 1934. One plant that had consistently yielded

fully pasteurised milk for eighteen months suddenly provided four consecutive samples that had been overheated. Subsequent inspection of a plant revealed a defective part of the apparatus. After its replacement satisfactory results were again attained. The following table illustrates the upward trend of efficiency, but at the same time emphasises the need for continuous samplings.

Pasteurization of Milks.

	Number of samples examined	Number fully pasteurised	Number heated under 142°F	Number heated over 150°F.
Plant				
No. 1	30	26	0	4
" 2	10	6	3	1
" 3	40	28	6	6
" 4	7	5	2	0
" 5	9	6	3	0
" 6	3	1	2	0
" 7	9	2	7	0
" 8	2	1	1	0

Tubercle in milk.

The examination of 519 samples yielded the presence of tubercle bacilli in 38 instances (6·8 per cent.)

Ice creams.

42 ice creams were examined by the methylene blue reduction test and by the *B. coli* test. For the former, a 16 per cent. suspension of the ice cream in sterile milk was coloured with methylene blue solution and kept at a temperature of under 15°C. The average time which the colour took to disappear was 4·0 days, the actual times varying between one and ten days.

The grading of the ice creams was as follows :

Number of samples.	Time required for reduction. Days.
1	1
12	2
5	3
3	4
9	5
1	6
1	7
1	8
1	9
1	10

Around 50 per cent. of the samples showed therefore an excess of bacillary contents.

Presence of B. Coli.

52·4 per cent. of the ice creams examined yielded positive findings for *B. Coli* in 0·1 c.c. In two samples *B. Coli* was absent in 1 c.c.

These results are practically confirmative of the methylene blue reduction figures.

General.

During the year a number of cases of idiopathic jaundice have come under review. Extensive investigations for the correlation of this condition with Weil's disease have been carried out in all instances. These included recently elaborated agglutination methods with spirochaetes and cohesion reactions with bacteria as well as the usual animal inoculations. Positive results, however, have not been attained.

The work on non-caseous lymphadenitis has been carried a step further in an attempt to reproduce similar lesions in appropriate animals. It has opened up several avenues for further enquiry, not the least being the periodic invasion of ovine tissues during the seasonal changes associated with soil and herbage.

Meats.

Among the routine meats submitted for report a generalised tuberculosis was found in lungs, liver, spleen and inguinal gland obtained from the carcase of a sheep exposed for sale.

Eggs.

The bacterial contents of market eggs and their persistence in confectionery products.

There have been some misgivings as to the exact nutritional value and hygienic properties of imported Chinese liquid eggs. Some practitioners have been plied with queries as to the general utility and safety. The necessary information for an answer has not been readily available. It may be a help, therefore, to place on record some observations that have been made during departmental routine work.

Liquid eggs are used widely by bakers and confectioners in cake making. When the yolks and whites are separated, the whites are included in the mixtures for meringues, icing and fancy pastries. Liquid whites are also employed for clarifying wines, syrups and jellies.

During 1932, 738,000 cwts. of liquid or frozen eggs were imported from China into the United Kingdom. In 1933, the quantity fell to 579,000 to rise again in 1934 to 800,000. The average value may be taken at about 50/- to 60/- per cwt.

The liquid eggs arrive in sealed tins containing some 11—40 lbs. weight. The various packers adopt different labels and names. To some are added constituents such as sugar and salt: others are just liquid eggs and no more. A few of the brands append a certificate of examination of their plant and packing arrangements by reliable officials.

During transport, the containers are kept at a temperature of 20—25°F. When unloaded, they are transferred to fast lorries that carry them to cold stores. In Bristol there are three to seven dealers who maintain an average stock of 10 tons each. From

these depots, daily deliveries are made to the actual users. One firm takes five tons per week. After the tins are thawed, they are opened and—it is said—used immediately : probably for the simple reason that they become unwholesome after 24 hours.

Imagination probably plays a considerable part in the mental assessment of the conditions associated with the breaking of eggs and the canning of their contents in foreign climes. Although there is not the inherent danger of salmonella carrying as in duck eggs, the factory methods seem to suggest possibilities for lack of accurate selectiveness as to the "freshness" of the individual eggs. Similarly, the trade has done little to assure the consumer of the cleanliness and general hygiene of the "packing" procedures.

An examination of the chemical contents carried out by the city public analyst (Mr. F. C. Needs, F.I.C.) shows that from the nutritive standpoint the liquid egg compares favourably with the new laid product.

Chemical contents of liquid eggs.

Number of sample	1	2	3	4	5	6	7
Total solids % ...	29.3	28.1	28.05	28.0	59.0	27.5	26.83
Ash % ...	1.05	1.02	1.06	1.07	2.02	1.07	.094
Fat % ...	11.64	11.1	10.3	11.15	22.5	11.05	10.8
Zeiss Butyro- refractometer Reading at 40°C	59.0	60.1	58.0	59.5		60.0	57.4
= Refractive Index at 40°C ...	1.4653	1.4660	1.4646	1.4656		1.4659	1.4642
Nitrogen % ...	2.14	2.11	2.08	2.08	3.46	2.08	1.9
= Protein % ...	13.4	13.2	13.0	13.0	21.6	13.0	11.9
Added salt % ...			.015				
Added sugar %			0.8				
Glycerine % ...					11.2		
Starch Formaldehyde Boric acid Sulphur dioxide	Absent	Absent	Absent	Absent	Absent	Absent	Absent

The amounts of fat and protein found in the above samples of liquid eggs are such as would be found in ordinary fresh eggs, with the exception of sample no. 5, which is concentrated 100 per cent. in the presence of glycerine. The samples are free from preservatives.

The bacillary findings recorded in the following table show the wide variations existing in different packages of the same brand. They also demonstrate the frequency of *B. coli* and sporebearers and suggest the possibility of the inclusion of salmonella and dysentery groups under certain circumstances. The types and numbers of the organisms in the several brands indicate a relationship with the keeping qualities of the opened tin contents. Immediate use would seem essential in all cases.

Bacillary contents of liquid eggs (whole fluid).

Brand	Total count per c.c.	Acid formers	Alkali formers	Points	Keeping qualities	Bacteria
A.	2,840,000	2,760,000	80,000	—	H ₂ S 72 hrs.	B.Coli. B. Subtilis.
	6,290,000	6,080,000	210,000	—	H ₂ S 24 hrs.	B.Coli.
	4,230,000	4,070,000	16,000	—	H ₂ S 24 hrs.	B.Coli.
	150,000,000	—	—	—	H ₂ S 24 hrs.	B.Aerogenes
	1,700,000	1,700,000	—	—	H ₂ S 36 hrs.	B.Coli.
	6,470,000	6,420,000	50,000	—	Clot 36 hrs.	B.Coli. B.Mes. Vulgatus
	11,060,000	10,000,000	1,060,000	—	H ₂ S 30 hrs.	B.Coli.
B.	11,500,000	6,500,000	—	5 m.	H ₂ S 72 hrs.	B.Coli. Subtilis. Streps.
	30,000	30,000	—		Sour 72 hrs.	B.Coli.
	2,112,000	1,140,000	17,000	802,000	—	Strep. B.Ac. Lactici.
C.	Uncount-able ...	—	—	—	H ₂ S 6 hrs.	B.Coli.
	11,600,000	5,350,000	6,250,000	—	Clot 24 hrs.	B.Coli. B.Mes. Vulgatus
	341,000	254,000	87,000		H ₂ S 96 hrs.	B.Coli. B. Subtilis
D.	15,900,000	12,400,000	—	3,500,000	Sour 24 hrs.	B.Coli. moulds
	2,560,000	2,560,000	—	—	H ₂ S 24 hrs.	B.Coli.
E.	1,070,000	570,000	500,000	—	H ₂ S 24 hrs.	B.Coli. B.Mes. Vulgatus
F.	1,466,000	612,000	—	854,000	H ₂ S 72 hrs.	B.Coli. Strept. B.Subtilis
G.	82,000	69,000	10,000	3,000	—	B.Coli. Strept.

The whole question, however, turns upon the content of the egg mixtures after they have been exposed for a specified time to the heat necessary for their transformation into attractive confections.

Accordingly, the bacterial contents of cakes, etc., made from farm or liquid eggs have been determined. Some of the cakes were home made, others were made by a well known confectioner at our request. On delivery, the cakes were cut under sterile conditions, and a wedge was similarly obtained from the centre of each. The types of bacteria present were then isolated and identified. The cake was retained under ordinary household conditions for five days and re-examined.

The following table provides evidence to show that the heat used sufficed in all instances to destroy the *B. coli* present in the liquid eggs, but failed to delete the sporebearers, staphylococci and some streptococci. The presence of these types of bacteria, while not directly a menace to health, yet minimise the keeping properties of the confectionery products and thus make them less economical than those prepared from eggs marketed in other ways.

Bacterial contents of cakes made with fresh farm eggs or liquid imported eggs.

Cakes	Eggs.	Bacteria 1st day.	Fifth day
Sponge	English farm new laid	Few gram negative rods and gram positive cocci*	—
Sponge	Liquid	B. Subtilis. B. Mes. Vulgatus. Staph. alb.	—
Sponge round	Liquid	B. Subtilis B. Mes. Vulgatus Staph. alb.	Same organisms increased in numbers.
Sponge fancies	Liquid	B. Subtilis B. Mes. Vulgatus Staph. alb.	Same organisms not increased
Sponge	Liquid	Scanty streptococci B. Subtilis	—
Madeira cake	Liquid	B. Subtilis. B. Mes. Vulgatus Staph. alb.	Numbers of all much increased
Fruit cake	Liquid	B. Subtilis B. Mes. Vulgatus. Staph. alb.	All organisms increased

* These were present in the commercial cake powder used for the purpose.

STAFF, 1935.

Public Analyst :

Francis Edwin Needs, F.I.C.

Assistant Analysts :

Senior : Frederick Frank Beach, M.A. (Oxon), B.Sc., (Lond.), F.I.C.

Junior : Ivor Dembrey, B.Sc. (Bristol), A.I.C.

Temporary : Alexander R. P. Walker, B.Sc. (Bristol).

Laboratory assistants :

Charles R. Turner

Stanley J. Honeyball

Clerical staff :

Marjorie E. Rumins

The Report of the Public Analyst, Official Agricultural Analyst and Gas Examiner.

To the

LORD MAYOR, THE ALDERMEN, AND
MEMBERS OF THE CITY COUNCIL.

My Lord Mayor, Ladies and Gentlemen,

I have the honour to present the report on the work carried out in this department during the year 1935.

This report embodies the work done in a complete year in the new laboratories of the department of preventive medicine, to which the chemical department of the Corporation was transferred in August 1934. The new laboratories afford modern and convenient accommodation for the increased amount of work of a varied description which is now carried out in my department. Also they increase the usefulness of the work by expediting the results in such cases where speed is an important factor, such as in the investigation of damaged food and the examination for preservatives of food-stuffs from the port.

The report is divided into seven parts as follows :—

- Part 1. Food and Drugs Act.
- Part 2. Port samples.
- Part 3. Fertiliser and Feeding Stuffs Act.
- Part 4. Water, river water, and sewage.
- Part 5. Miscellaneous analyses.
- Part 6. Gas Regulation Act.
- Part 7. Atmospheric pollution.

Compared with the average number of samples examined in the previous five years, the samples under the Food and Drugs Act increased by 13 per cent., of which the number of milk samples was increased by 23 per cent., and the total number of samples examined showed an increased of 70 per cent., due mainly to the large number of river waters and sewage samples.

The adulteration rate for the food and drugs samples was 4·31 per cent. and this figure compares very favourably with the percentage of adulteration for all samples of foods and drugs taken in England and Wales for the year 1934 (the last year for which figures are available) which was 5·3 per cent.

A large amount of work was done on the river Avon water, and on the sewage from seven main sewers which traverse the city. Primarily this was directed to the "strength" of the sewage and to the period and position at which chlorination would be most advantageous, and later to the efficacy of the chlorination. Although in the main, chlorination appeared to deal quite well with

domestic sewage, the presence of trade waste in the sewers rather upsets calculations for the requisite amount of chlorination.

In addition, the investigation of pollution of the atmosphere was undertaken for the first time in Bristol. Two positions were chosen, one representing the centre of the city, and the other a residential area. It is interesting to note that there was more than three times the amount of soot and tar in the deposit which fell in the centre of the city as compared with that which deposited at the Zoological Gardens.

It affords me great pleasure in acknowledging the excellent work of every member of my staff, and I am indebted to them for their hearty co-operation in the work of a very busy year.

I am, my Lord Mayor, Ladies and Gentlemen,

Your obedient servant,

F. E. NEEDS,

Public Analyst.

SUMMARY OF SAMPLES.

Table 1.

Food and Drugs Act	1,576
Food samples from the port	120
Water for chemical analysis	44
River water for city engineer	176
Sewage samples for city engineer	1,217
Fertilisers and Feeding Stuffs Act	22
Rag Flock Act	4
Baths department	2
Police department	2
Health department	12
Southmead Hospital	1
Public Assistance Committee	25
Gas Regulation Act	612
Agricultural products	16
Grading and Marking Act }	
Atmospheric pollution	24
Total	3,853

PART I.

FOOD AND DRUGS ACT.

During the year, 1,576 samples were submitted for analysis under the Food and Drugs (Adulteration) Act, 1928. This number is 192 more than for the previous year and represents an increase of about 14 per cent. The population of the city, as estimated by the registrar general at the middle of 1935 (with minor extensions of boundaries) is 413,100, hence the number of samples per 1,000 persons is 3·82. This figure is above that for England and Wales in 1934, the number of samples per 1,000 of the population being 3·47.

Table 2 shows the nature and number of samples submitted, with the number reported genuine and the number adulterated :—

Table 2.

ARTICLE	Number examined	Number genuine	Number adulterated	Per cent. adulterated
Milk	1,045	990	55	5·26
Skimmed milk	18	16	2	11·11
Milk-O	1	1	0	0
Goats' milk	1	1	0	0
Condensed milk	4	4	0	0
Cream	15	15	0	0
Artificial cream	1	1	0	0
Cream slices	1	1	0	0
Real cream slices	1	1	0	0
Real cream buns	1	1	0	0
Real cream scones	1	1	0	0
Ice cream	10	10	0	0
Butter	102	102	0	0
Lard	14	12	2	14·29
Margarine	12	12	0	0
Cooking fat	6	6	0	0
Dripping	12	12	0	0
Vegetable fat	1	1	0	0
Suet	5	5	0	0
Shortening	1	1	0	0
Cheese	12	12	0	0
Liquid eggs	7	7	0	0
Table jelly	12	12	0	0
Unfermented cordial	4	4	0	0
Mineral water	5	5	0	0
Lemonade crystals	3	3	0	0
Orangeade powder	1	1	0	0
Ground almonds	1	1	0	0
Biscuits	2	2	0	0
Dried fruit	18	18	0	0
Sausages	10	8	2	20·00
Bread	4	4	0	0
Vinegar	23	21	2	8·70
Pepper	12	12	0	0
Tea	12	12	0	0
Cocoa	11	11	0	0
Coffee and chicory	12	12	0	0
Mustard	5	5	0	0
Soda water	1	1	0	0
Beer	5	5	0	0
Cider	2	2	0	0
Stout	1	1	0	0
Sardines	4	4	0	0
Cinnamon	3	3	0	0
Sugars	33	33	0	0
Starchy foods	36	36	0	0
Spirits	21	21	0	0
Drugs	64	59	5	7·81
Total	1,576	1,508	68	4·31

Number of samples examined ... 1,576

„ „ adulterated 68

„ „ genuine ... 1,508

Of the 1,576 samples examined, 581 were sealed (having been divided in accordance with the provisions of section eighteen of the Food and Drugs (Adulteration) Act 1928), and 995 were unsealed, or informal samples.

About two-thirds of the number of samples were informal, but the saving of time and trouble involved in the collection of these samples, applies only to the method of sampling. The amount of analytical work is as much as, and sometimes considerably more than that done on formal samples, chiefly on account of the fact that a larger quantity of the sample is available for an extensive examination. It is upon the information gained from these informal samples, when they contravene the provisions of the Food and Drugs Act, that formal samples are obtained, and if necessary, legal action taken.

Comparative figures for adulteration in Bristol for the last six years are given in Table 3.

Table 3.

	1930	1931	1932	1933	1934	1935
Total number of samples ...	1,400	1,400	1,400	1,375	1,384	1,576
Per cent. adulterated milk ...	5·36	5·67	5·67	5·43	6·83	5·26
Per cent. foods, other than milk	0·96	1·49	3·02	3·07	3·26	2·45
Drugs	15·79	12·82	5·41	13·56	11·36	7·81
Total per cent. adulterated ...	4·0	4·21	4·71	5·02	6·07	4·31

The figures for England and Wales for the year 1934 are as follows :

Total adulteration rate	...	5·3%
Milk ,, ,,	...	7·2%

Milk.

Of the fifty-five samples condemned, eleven showed an addition of water, and forty-four were deficient in fat. In addition one sample of skimmed milk was condemned for the presence of annatto colouring matter, and one sample of skimmed milk contained added water.

Table 4 gives the figures of analysis of these watered samples of milk and skimmed milk, although sample no. 118 would appear to be more aptly described as a milky sample of water :—

Table 4.

Number of sample	Analytical figures.			Per cent. added water
	Fat	Non-fatty solids	Freezing point depression	
118 ...	0·8	2·2	0·140	74·1
519 ...	3·6	7·2	0·436	15·2
616 ...	3·13	8·07	0·523	5·0
621 ...	3·04	8·16	0·529	4·0
644 ...	3·55	8·20	0·514	3·5
776 ...	3·36	8·24	0·522	3·0
797 ...	3·86	8·24	0·523	3·0
1,274 ...	3·87	8·20	0·486	3·5
1,288 ...	3·85	8·35	0·492	1·7
1,289 ...	3·85	8·35	0·492	1·7
1,297 ...	3·93	8·00	0·473	5·8
1,412 skimmed	0·12	7·10	0·435	18·3

Little comment is necessary concerning these watered samples except that sample no. 621 giving a Hortvet figure of 0.529 when referred back to the source yielded a Hortvet figure of 0.545. Also that samples 1288 and 1289 contained considerably more water than 1.7 per cent. as obtained from the Board of Agriculture standard—probably something like 7 per cent.

The abstraction of fat is responsible for the condemnation of 44 samples, of which 10 were condemned for a deficiency of (or greater than) 10 per cent.

Four of the latter were particularly bad samples as the following figures show :—

Table 5.

Number of sample	Fat	N.F.S.	T.S.	% Fat abstracted.
749	2.25	8.75	11.00	25.0% fat abstracted
1039	2.46	8.70	11.16	18.0%
1153	1.92	9.08	11.00	36.0%
1345	2.45	9.15	11.60	18.3%

Abnormal and suspicious milk.

Table 6.—Abnormal.

Number of sample	Specific gravity	Fat per cent.	Non-fatty solids	Ash per cent.	Freezing point depression
					Δ
629	1029.2	3.35	8.10	0.74	.536
630	1029.6	3.55	8.20	0.76	.553
631	1029.5	3.38	8.17	0.77	.548
675	1029.2	3.3	8.2	0.71	.537
677	1027.5	4.10	8.15	0.74	.534
682	1030.4	3.05	8.30	0.70	.534
687	1030.8	3.03	8.32	0.74	.543
914	1029.6	3.10	8.35	0.72	.536
915	1030.0	2.80	8.45	0.75	.533
916	1030.0	2.90	8.45	0.77	.532
917	1031.8	2.85	8.85	0.74	.533
919	1032.4	2.70	8.85	0.74	.534
937	1031.6	2.85	8.70	—	.533
938	1033.1	2.60	8.95	—	.535
939	1032.4	2.90	8.95	—	.535
948	1031.2	2.40	8.45	—	.540
949	1030.8	2.90	8.45	—	.542
954	1032.0	2.85	8.70	—	.545
955	1031.5	1.55	8.35	—	.535
976	1031.5	2.65	8.60	—	—
1005	1031.9	2.5	8.60	—	.541
1011	1033.0	2.85	9.15	—	—
1012	1032.9	2.6	9.0	—	—
1099	1032.5	2.80	8.85	—	.540
1100	1031.6	2.88	8.77	—	.542
1203	1028.7	3.45	8.25	—	.542
1403	1032.6	2.88	9.02	—	—
1490	1036.6	4.20	10.38	0.86	.534
1524	1036.0	5.15	10.40	0.87	.535
1551	1031.2	2.85	8.6	0.76	—

Of these 30 abnormal samples, 19 were deficient in fat and 9 were deficient in non-fatty solids, but yielded perfectly normal freezing point depressions. Most of the samples were milked in the presence of the food and drugs inspector, some being from single cows. One sample (no. 955) from an old cow, submitted primarily for an examination by the preventive medicine department for tubercle was grossly deficient in fat.

The farmers and producers from whence these abnormal samples were obtained were given the opportunity of the advice and help of the agricultural advisory department of the University, in regard to feeding, the selection of cattle and the detection of ailments likely to give rise to milk of poor quality, with beneficial results.

One sample of milk (no. 1490) gave very high figures for specific gravity, non-fatty solids and protein, almost suggestive of goats' milk, or solution of dried milk. Starch and sucrose were proved absent and the sample was shown to be unboiled. A further sample (no. 1524) was obtained and gave similar high figures. For comparison a sample of goat's milk was procured and a test for the detection of goat's milk in cow's milk was done on the three samples (ref : Test by J. Krenn, Analyst, 1933, p. 349). This test worked well for goat's milk and for a dilution of 10 per cent. in cow's milk, but negative results were obtained with the two samples 1490 and 1524.

It was concluded that these two samples were abnormal milk, the lactose ; protein ; ash ratio being far removed from the normal. It was ascertained later that the source was the milk of one cow.

Table 7 gives the figures for these three samples :—

Table 7.

No.	1490	1524	1508 Goat's milk
Specific gravity ...	1036·6	1036·0	1034·4
Fat per cent. ...	4·2	5·15	4·85
Non-fatty Solids ...	10·38	10·40	9·82
Lactose ...	4·5	4·55	4·4
Protein ...	4·8	4·9	4·5
Ash ...	0·86	0·87	0·92
% chlorine in ash ...	10	11	7
Freezing point depression Δ	·534	·535	·570

Table 8.—*Suspicious.*

No. of sample	Specific gravity	Fat %	Non-fatty Solids	Ash %	Freezing point depression
					Δ
509	1032·9	2·90	8·95	—	·555
526	1028·8	4·0	8·4	0·68	·497
571	1029·3	4·0	8·4	0·71	·502
578	1032·5	2·95	8·80	—	·541
579	1033·7	2·95	9·10	—	·537
587	1032·4	2·95	8·8	—	—
636	1032·9	2·95	8·90	—	·551
666	1029·5	3·7	8·3	—	·523
703	1030·2	3·5	8·4	—	·523
710	1031·7	2·95	8·65	—	·544
768	1031·8	2·95	8·60	—	—
788	1030·1	3·5	8·4	—	·520
802	1032·6	2·90	8·85	—	·542
923	1032·0	2·95	8·65	—	·542
924	1031·9	3·10	8·75	—	·522
940	1032·7	2·95	8·85	—	—
952	1033·6	2·90	9·25	—	·538
953	1030·9	3·35	8·55	—	·513
957	1033·3	2·90	9·25	0·75	—
998	1032·2	2·95	9·0	—	·542
1026	1030·5	3·05	8·50	0·72	·509
1059	1029·4	3·44	8·33	—	·491
1096	1031·7	2·95	8·70	—	—
1112	1030·3	3·12	8·44	—	·522
1132	1030·5	3·45	8·50	—	·523
1178	1030·2	3·18	8·45	0·69	·499
1204	1030·3	3·35	8·45	—	·511
1210	1032·8	2·95	8·9	—	·541
1228	1029·8	3·40	8·55	0·74	·508
1299	1030·5	3·25	8·50	0·71	·510
1300	1030·0	3·25	8·40	0·71	·501
1514	1030·8	4·4	8·8	—	·523
1555	1032·4	2·9	8·9	—	—

Of the 33 samples of milk returned as suspicious, 16 were slightly deficient in fat and 17 were either slightly deficient in non-fatty solids or a freezing point depression below the normal was obtained. These cases are followed up to check careless handling and to trace leaking coolers.

Average composition of genuine milk.—Year 1935.

Table 9.

Month	No. for each month	Specific Gravity	Fat	Non-fatty solids
			%	%
January ...	87	1032·2	3·51	8·90
February ...	99	1032·2	3·41	8·87
March ...	84	1032·0	3·37	8·86
April ...	86	1032·2	3·32	8·72
May ...	77	1031·1	3·34	8·93
June ...	63	1031·9	3·33	8·82
July ...	81	1031·4	3·40	8·70
August ...	34	1031·4	3·33	8·74
September ...	85	1031·7	3·52	8·79
October ...	88	1032·3	3·53	8·96
November ...	72	1032·2	3·71	8·99
December ...	71	1032·3	3·75	9·0
Average for year	927	1031·9	3·46	8·86

The figures in table 9 are obtained from genuine samples only, i.e., after deducting adulterated, abnormal and suspicious samples from the total number of milks examined.

475 samples of milk were taken direct from farms, and more or less represent the type of milk entering the city. 27 samples (=5·7%) showed slight deficiencies, chiefly in fat, and attention was drawn to the farmer concerned to remedy the matter.

Freezing point of milk.

The Hortvet apparatus has been in constant use this year and has proved invaluable in differentiating between abnormal and suspicious samples, besides confirming beyond all doubt those samples adulterated by the addition of water.

About 700 determinations of the freezing point in the Hortvet apparatus have been done on samples of milk during 1935; thus about two thousand freezing point depressions have been determined since the apparatus was first used in May 1931. The average freezing point depression for genuine samples (i.e., excluding those reported as adulterated and suspicious) for the year was 0·544.

It is well to note that several samples of milk, deficient in non-fatty solids but giving normal depressions of the freezing point, were returned as genuine without question. This shows the immense value of the Hortvet to the honest producer, as well as to the analyst.

There is no doubt that the freezing point is the most constant property possessed by genuine milk, the extent of variation of its principal constituents being very much greater.

For instance, taking the 30 milks in table 6, which were returned as abnormal, the following table shows the variation of the non-fatty solids, the ash and the depressions.

Table 10.

	Non-fatty solids	Ash	Freezing point depression Δ
Highest ...	10·4	0·87	0·553
Lowest ...	8·1	0·70	0·532
Average ...	8·68	0·76	0·538
% variation	+20	+14	+2·8
from average }	—7	—8	—1·2

Milk-O.

One sample sold under this fancy name gave the following analytical figures.

Table 11.

No. of sample.				1539
Specific gravity	...	...		1028.2
Fat %	...	...	...	0.2
Non fatty solids	...	...		7.4
Protein	...	...	...	2.85
Lactose	...	...	...	3.73
Ash	...	...	...	0.58
% Chlorine in ash	...	...		11
Sucrose and starch	...	...		0.24
Freezing point Δ	...	...		0.397

This is probably a mixture obtained by boiling skimmed milk powder with water, with the addition of traces of starch and sugar.

Condensed milk.

Four samples were examined under the Food and Drugs Act, three being skimmed sweetened and one full cream sweetened. They conformed to the Condensed Milk Regulations, 1923, the chief analytical figures being given below :—

Table 12.

Number	407	408	409	410
Percentage				
Total solids ...	73.1	72.2	73.2	74.5
Sucrose ...	46.4	46.1	43.6	40.0
Milk solids ...	26.7	26.1	29.6	34.5
Fat ...	0.48	0.55	0.39	10.38
Protein ...	9.95	10.1	10.15	9.2
Lactose (anhydrous) ...	12.55	12.95	13.7	12.75
Ash ...	2.06	2.0	2.2	1.9
Specific gravity ...	1383	1382	1384	1317
Equivalence in pints ...	1.35	1.35	1.4	0.87
Statement on label ...	1.375	1.375	1.375	0.875
Regulations :—				
Milk solids ...	26	26	26	31
Fat ...	—	—	—	9

Cream.

Fifteen samples of cream were examined, eight being fresh cream and seven tinned. All were free from preservatives.

One of the samples of fresh cream was sold as " half-price " cream, and would appear to contain about the same amount of fat as in tinned cream, but only about a half of that usually found in fresh cream.

The following table gives some of the principal figures :—

Table 13.

%	Fresh cream	Half-price	Tinned
Total solids	52·7 to 63	32·65	31·3 to 39·2
Fat	47·7 to 58·8	25·7	24·3 to 31·4
Ash	0·28 to 0·95	0·99	0·57 to 0·7

In addition to the above, a sample of artificial cream was submitted. A fairly extensive analysis was made on this sample, together with a home-made artificial cream and a raw cream, with results appended in the following table :—

Table 14.

	Artificial cream	Home-made artificial cream	Raw cream
Sample number	155	—	160
%			
Total solids	51·0	45·6	60·7
Ash	0·66	0·42	·03
Fat	43·5	39·5	57·0
Non-fatty solids	7·5	6·1	3·7
Protein	2·4	2·15	1·2
Chloride as } chlorine in ash	0·14	0·085	0·02
Chlorine as % of ash ...	21	20	7
Reichert	29·3	30·4	29·5
Polenske	2·1	3·1	2·15
Kirschner	22·4	26·6	26·3
Zeiss reading at 40°C...	43·2	42·6	44·3

Comparing the figures of analysis in the above samples, it would appear that No. 155 is correctly described, and the fat consists of butter fat.

Also, it is to be noted that the chlorine in chloride expressed as a percentage of the ash, is very much greater in the case of artificial cream as compared with that in fresh, and it may be that this figure may prove useful as a pointer in the differentiation of artificial and fresh cream. As an experiment, half a dozen home-made artificial creams were made from unsalted and desalted butters, and these were analysed. In all cases, the chlorine expressed as a percentage of the ash was greater than twenty, whereas this figure in the case of raw cream was about ten. However, in one case of a cream submitted as raw cream, this figure was twenty-four, but it is uncertain whether this was a sample of artificial cream or not.

Four samples of cream slices, buns and scones were submitted by the inspector, three of which being marked "real" cream. Hence the examination was conducted with a view to proving the presence or

otherwise of butter fat. But of course the presence or absence of this fat does not go any further than to differentiate between "confectioners" cream on the one hand and "dairy" or "artificial" on the other. Table 15 gives some of the results obtained :—

Table 15.

No.	Real cream slices 156	Real cream buns 157	Real cream scones 158	Cream slices 159
Lactose ...	+	+	+	...
Sucrose ...	+	—	+	...
Starch ...	—	—	—	+
Reichert ...	26·8	28·8	28·9	...
Zeiss Reading at 40°C ...	44·1	43·5	44·8	57·5
Melting point	—	—	—	50°C

It was concluded that either dairy or artificial cream was used in the preparation of samples 156, 157 and 158, and that sample no. 159 was from a custard basis, and only contained traces of cooking fat. This more or less accords with their description.

Ice cream.

Ten samples were examined with the view to the investigation of the fat, which proved in all cases to be butter fat. The percentage of fat ranged from 3 per cent. to 15 per cent. and the low fat varieties contained starch. It would therefore appear to be quite time that precise designations for these dissimilar preparations should be legally established.

Preservatives and noxious metals were proved to be absent.

Table 16 gives the chief analytical figures :—

Table 16.

No. of sample	128	129	130	131	145	146	242	243	244	245
Total solids % ...	34.5	37.8	30.0	28.45	23.8	33.4	38.1	27.1	36.2	39.6
Ash % ...	.73	.72	.56	.47	.58	.47	.76	.70	.83	.83
Fat % ...	10.4	13.8	8.0	4.13	3.13	15.0	13.7	2.93	10.8	14.1
Butyrorrefractometer reading at 40°C ...	42.8	43.2	42.9	44.4	43.4	42.8	44.2	45.2	42.6	43.5
= refractive index at 40°C	1.4544	1.4547	1.4545	1.4554	1.4548	1.4544	1.4553	1.4560	1.4543	1.4548
Reichert No. ...	29.9	29.1	30.0	24.3	27.8	29.0	29.7	32.5	29.4	26.9
Polenske No. ...	1.9	2.8	1.9	1.1	1.65	2.3	1.36	2.4	2.1	2.3
Kirschner No. ...	25.8	25.9	25.9	21.7	25.5	25.8	24.5	29.7	23.3	22.8
Protein % ...	4.49	4.03	3.76	2.71	2.25	2.23	4.13	3.10	4.08	4.18
Starch ...	—	—	—	+	+	—	—	+	—	—

Adulterated samples other than milks.

Table 17.

Number of sample	Nature of sample	Nature of adulteration.
38	Solution of iodine	61·2% deficient in iodine 37·9% deficient in potassium iodide
170	Zinc ointment	7·3% deficient in zinc oxide
321	Castor oil	Camphorated oil B.P. substituted
336	Vinegar	900 per c.c. nematode worms
338	Vinegar ...	700 per c.c. nematode worms
347	Iodine paint ...	17·5% deficient in iodine
385	Lard ...	Lard substitute
394	Sausages ...	·015 % sulphur dioxide (SO ₂)
395	Sausages ...	·012 % sulphur dioxide (SO ₂)
406	Lard ...	Lard substitute
422	Iodine paint ...	14·69% deficient in iodine

Fatty substances.

The following samples under this heading were examined, all of them being genuine excepting two samples of lard :

102 samples of butter

12	„	margarine
12	„	cheese
14	„	lard
12	„	dripping
5	„	shredded suet
8	„	cooking fat

All the samples of butter and margarine were free from boric acid, and all were below the legal limit of 16 per cent. for moisture, only six samples varying between 15·6 per cent. and 16 per cent. moisture.

All the samples of margarine were based on a coconut or palm kernel oil constituent, and cotton-seed oil was also detected in one case.

The fat content of the samples of cheese varied between 30·0 per cent. and 40·4 per cent., giving a mean figure of 35·5 per cent. Noxious metals were proved to be absent.

One sample was submitted as Lancashire cheese (no. 303). It contained 30 per cent. fat, 28·4 per cent. water, 31·4 per cent. protein, 4·8 per cent. ash, and yielded a Reichert figure of only 21. This is an exceptionally low figure, yet such figures are occasionally obtained from the fat of cheese, especially if at all mouldy. Also the fat is only 42 per cent. calculated on the water-free substance.

Two samples of lard were condemned, being samples of lard substitute, and consisted of a mixture or preparation containing not less than 50 per cent. of vegetable oil or fat. One other sample was

returned as suspicious, it being fairly certain that some vegetable fat was present, yet the iodine no. was only slightly above the upper limit for hog's fat, and most of the other figures were normal, despite the melting point being rather low.

The chief figures of analysis are given in the following table.

Table 18.

Number	268	385	406
Valenta °C	95	85	—
Zeiss reading at 40°C ...	51	56	55.4
Melting point °C ...	35.5	43	41
Iodine No.	69	98.2	97
Saponification value ...	199.5	193.6	194
Cotton seed oil	—	—	about 10%
Melting point of Sterol acetate °C			
1st crystallisation ...	117	128	125
5th "	120	126	128
Conclusion "	Suspicious	Lard substitute	Lard substitute

The first and fifth crystallisations of cholesterol acetate obtained from pure lard were 113° and 114°C respectively, and similar crystallisations of phytosterol acetate from vegetable fat were 126° and 124°C.

All the samples of shredded suet were genuine, the fat ranging between 83 per cent. and 89.8 per cent.

The Council of the Society of Public Analysts in December, 1931, expressed the opinion that, pending the establishment of any legally authorised standard, shredded suet should contain not less than 83 per cent. of fat. A lower percentage of fat should be regarded as indicative of excess of flour. The following table gives the extreme and mean values of some of the physical tests commonly applied to fatty substances.

Table 19.

Nature of sample	Valenta test °C			Zeiss at 40°C			Av'age M.P. °C	Reichert Av'age	Polenske Av'age
	Highest	Lowest	Av'age	Highest	Lowest	Av'age			
Butter ...	51.0	35.0	42	44.5	41.8	43.3	...	27.2	2.3
Margarine ...	83.0	27.0	55	50.0	41.0	48.0	...	3.8	4.8
Cheese ...	45.0	30.0	38	46.0	42.0	44.0	...	...	...
Lard ...	99.0	91.0	94	52.0	49.0	50.0	44	0.3	0.5
Dripping ...	97.0	85.0	91	50.0	47.0	48.0	46	...	...
Suet ...	102.0	92.0	95	47.0	45.0	46.0	49	...	...
Cooking fat	98.0	70.0	87	52.0	48.0	50.0	41	0.3	0.8

Starchy foods.

The following specimens were examined as set out in the table.

Table 20.

Description	No. of samples	Moisture % average	Ash % average	Protein % average	Starch
Arrowroot ...	4	14.65	0.2	0.32	Arrowroot
Blanc mange powder ...	2	10.65	0.29	...	Maize
Bread ...	4	41.6	0.5	8.0	Distorted wheat
Corn flour ...	4	12.8	0.36	0.29	Maize
Custard powder	5	12.2	0.4	...	Maize & sago
Flour, plain ...	11	11.9	0.4	12.3	Wheat
Flour, self raising	8	12.5	2.66	...	Wheat
Rice ...	2	12.0	0.32	...	Rice

Besides the above, two samples of biscuits were examined with the following results :—

Table 21.

Biscuits					Number 453	454
%						
Moisture ...	...	...	...	...	5.1	3.9
Ash ...	...	...	...	...	0.6	0.5
Protein ...	...	...	...	...	6.7	5.8
Fat ...	...	...	...	...	14.2	12.8
Zeiss reading at 40°C	...	...	...	...	49.6	43.4
Melting point °C	...	...	...	...	32.0	36.5
Iodine value	...	...	...	...	77	47.3

Sugars.

Thirty-three samples classified under this heading were examined, the different varieties being as follows :—

Description.	Number of samples.			
Golden syrup	2
Honey	2
Jam	13
Sugar	12
Sweetmeats	4

Of the two samples of honey, one was submitted as prepared honey. Although the latter contained more invert sugar than the genuine honey, it was proved to be of the commercial or artificial variety by two tests for the presence of furfural.

Thirteen samples of jam were examined and it is satisfactory to note that all passed the preservative regulations, although six

samples contained the full limit of 40 parts sulphur dioxide per million. The soluble solids ranged from 66 per cent. to 72 per cent. as obtained from the immersion refractometer, giving an average figure of 69·7 per cent. The soluble solids obtained from the specific gravity at 20°C of 20 per cent. extract was about 1 per cent. lower. The percentage of fruit obtained from the insoluble solids was up to the amount guaranteed for the full fruit standard, and the vegetable structures were characteristic of the different varieties microscopically.

Cane sugar was used in their manufacture with an addition of glucose in four cases, ranging from 3 to 10 per cent.

Liquid eggs.

Seven samples of liquid eggs were received from the inspector. Most of them arrived in the frozen state, and were imports of China and Egypt.

One sample (no. 256), not frozen, was said to be de-naturalised, and required the addition of 1 per cent. sodium bicarbonate before use.

They appeared to be quite fresh, yet entirely free from preservatives. The following table gives some of the figures on analysis :—

Table 22.

Number of sample	191	192	219	220	227	228	256
%							
Total solids ...	29·3	28·1	28·05	28·0	59·0	27·5	26·83
Ash ...	1·05	1·02	1·06	1·07	2·02	1·07	0·94
Fat ...	11·64	11·1	10·3	11·15	22·5	11·05	10·8
Zeiss Reading at 40°C ...	59·0	60·1	58·0	59·5		60·0	57·4
= Refractive Index at 40°C ...	1·4653	1·4660	1·4646	1·4656		1·4659	1·4642
Nitrogen ...	2·14	2·11	2·08	2·08	3·46	2·08	1·9
= Protein $\times 6\cdot25$	13·4	13·2	13·0	13·0	21·6	13·0	11·9
Added salt (Na Cl)			·015				
Added sugar ...			0·8				
Added glycerine					11·2		
Starch							
Formaldehyde							
Boric acid							
Sulphur dioxide	Absent	Absent	Absent	Absent	Absent	Absent	Absent

The amounts of fat and protein found in the above samples of liquid eggs are such as would be found in ordinary fresh eggs, with the exception of sample no. 227, which is concentrated 100 per cent. with the addition of glycerin.

Tea.

Twelve samples were examined giving very consistent chemical figures throughout, and the usual microscopical appearances. The mean analytical results were as follows :—

Total ash ...	5·50%
Soluble ash ...	3·54%
Alkalinity (as K ₂ O)	1·73%

There was no evidence of spent leaves or foreign structures.

Coffee, etc.

Twelve samples were examined under this heading, six of which were sold as coffee, three as a mixture of coffee and chicory, and three were liquid extracts of coffee and chicory.

The average specific gravity of a 10 per cent. decoction of the samples of coffee was 1009·3, and this figure in the case of the three mixtures was 1016·1 equivalent to about 43 per cent. chicory.

The microscopical appearances were normal in all cases and accorded with the description.

The three samples of coffee and chicory essence were proved to be free from benzoic acid and appeared to be liquid extracts containing saccharine matter with varying amounts of coffee and chicory. The following table gives some of the principal figures :—

Table 23.

Number	76	77	78
	%	%	%
Water	30·3	42·9	36·6
Sugars (as dextrose) ...	60·7	41·7	53·5
Organic matters not sugars	7·6	13·8	7·9
Ash	1·19	1·37	1·66
Caffeine	0·1	·18	0·28
Coffee (dry) approx. ...	10	18	28
Chicory (dry) approx ...	15	12	10

Cocoa.

Eleven samples were examined, giving the following mean figures on analysis :—

Table 24.

	%
Moisture	6·3
Ash	6·2
Soluble ash	4·8
Alkalinity as K ₂ O	2·18
Fat	21·0
Zeiss reading at 40°C	46·3
Cold water extract	23·3
Ash of cold water extract (both expressed as % of dry fat free) ...	5·9

No foreign starch and no arsenic was detected in any of the samples.

Pepper.

Twelve samples were examined and all were free from sulphur dioxide. The average figures were as follows :—moisture 12·6 per cent, ash 0·95 per cent. soluble ash 0·13 per cent., silica 0·10 per cent. The highest amount of silica found was 0·38 per cent.

Vinegar.

Twenty-three samples were examined, two being condemned for the presence of an excessive number of nematode worms, probably due to a dirty cask. Two samples were reported as suspicious, containing only 3·8 per cent. acetic acid in each case. The mean acetic acid figure for the remainder was 4·6 per cent.

Nine of the samples were of the fermented vinegar type, giving the following average figures:—specific gravity 1015·5, total solids 2·1 per cent. and ash 0·42 per cent. Two samples were probably a mixture of malt and wood vinegar, and the remainder belonged to the distilled variety. These gave average figures of: specific gravity 1008·6, total solids 0·42 per cent. and ash 0·053 per cent.

Arsenic was well below the limit of $\frac{1}{100}$ grain per gallon in all cases.

Mustard.

Five samples were examined, four of these being sold as mixtures. The starch was wheat in three cases, and maize in the other, and varied between 10 and 35 per cent.

The mean figure for oil in these four samples was about 26 per cent., whereas that for the sample of whole mustard was about 35 per cent.

Sausages.

Eight samples of sausages, and two samples of preserved sausages were submitted. The latter contained 180 parts and 173 parts sulphur dioxide per million respectively, which is well below the limit of 450 parts. Two samples of sausages were condemned for the presence of 150 parts and 120 parts sulphur dioxide per million respectively. All the samples were free from boric acid.

Two samples were submitted for the quantitative estimation of meat. One was said to contain 50 per cent. pork and this was returned as suspicious, there being less than that amount of meat in the sample and probably additional water. Some of the figures of analysis are given in the following table:—

Table 25.

				No. 430	No. 431
				%	%
Water	...	...	...	49·37	36·42
Fat	...	...	...	18·59	33·86
Non-fatty solids	...	...	...	31·08	29·69
Nitrogen	...	...	...	1·23	1·59
= Protein	...	...	...	7·69	9·94
Ash	...	...	...	2·26	2·06
Total meat	...	...	...	45	67
"Fillers"	...	...	...	55	33

Beer and cider.

Five samples of beer, one of stout, and two of cider were examined. Only very faint traces of arsenic were detected, and sulphur dioxide, when present, was well below the limit allowed.

Table 26.

No.	63	64	489	490	491	492	65	66
Description	Old	Mild and Bitter	Old	Bitter	Stout	Old	Cider	
% Alcohol v/v	4.95	4.36	3.98	3.9	4.63	6.1	5.46	4.85
% Proof spirit	8.68	7.59	6.97	6.83	8.1	10.69	9.59	8.6
Acidity as % Acetic acid	0.22	0.16	0.22	0.16	0.2	0.22	0.24	0.37
Original gravity	1045.9	1041.8	1041.4	1038.2	1051.1	1050.1	—	—

Spirits.

Twenty-one samples of spirits were examined consisting of the following varieties :—

Brandy	...	...	7
Whisky	...	...	6
Rum	...	...	4
Gin	...	...	4

One sample of gin was reported as suspicious, being 36 degrees under-proof, otherwise they were all genuine.

Drugs.

The following drugs were submitted for analysis :—

Table 27.

Iodine paint	(2)	Glauber salts	(5)
Phenolated solution of iodine	(2)	Borax	(5)
Tincture of iodine	(5)	Boracic powder	(4)
Olive oil ...	(4)	Boracic ointment	(4)
Zinc ointment	(10)	Cream of tartar	(5)
Epsom salts ...	(4)	Castor oil ...	(5)
Citric acid ...	(4)	Camphorated oil	(4)
		Catarrh remedy	(1)

Five of these were condemned :

Table 28.

No. of sample	Nature of sample	Nature of adulteration.
38	Solution of iodine	61.2% deficient in iodine.
170	Zinc ointment ...	37.9% deficient in potassium iodide
321	Castor oil ...	7.3% deficient in zinc oxide
347	Iodine paint ...	Camphorated oil B.P. substituted
422	Iodine paint ...	17.5% deficient in iodine
		14.69 deficient in iodine.

Tincture or solution of iodine is such an important and almost universal emergency antiseptic for cuts and wounds, that it is a

pity preparations of iodine under fancy names receive such a ready sale from time to time.

These preparations usually are deficient in iodine and potassium iodide, containing about 2 per cent. of either boric acid or carbolic acid, and although the price on the carton is sometimes marked 1/3, usually it can be obtained from 2d. to 6d. Two such samples called Iodine Paint (methylated) had the following guarantee on the carton :—" £100 guarantee. This bottle contains the full percentage of iodine as shown in formula (Liq.Iod.Mit.) British Pharmacopoeia, 1932. We will pay the sum of £100 to any person who can prove this statement to be incorrect." The statement was proved incorrect in court, but no application was made for the £100 !

However, it does seem very desirable to purchase this extremely useful drug—solution (or tincture) of iodine from a pharmacist, in which case the content of iodine should be 2·5 per cent. and potassium iodide 1·5 per cent.

One sample purchased by the inspector and submitted as castor oil was actually camphorated oil B.P. This was a very careless mistake on the part of the seller and might have led to disastrous results.

A sample of catarrh remedy was received from the inspector. This was a brown coloured liquid containing 3·3 per cent. formaldehyde, corresponding to 8·25 per cent. formalin solution. When a few drops were rubbed between the palms of the hands, as directed, prior to inhalation, a certain amount of roughness of the skin was noted, hardening the outer layers. It was sufficiently dilute to produce no serious harm to the skin beyond this hardening of the superficial cells of the skin. The aldehyde vapours are non-poisonous but very irritating and pungent to the eyes and throat.

Preservative and colouring matter.

No evidence of preservative was found in milk, skimmed milk, cream, butter, or margarine during the year. It is satisfactory to note that the preservation of food with boric acid has completely died out in this city, and still more satisfactory to report that no sample of milk contained formaldehyde.

One sample of skimmed milk was condemned for the presence of 7 parts per million of annatto colouring matter. It can only be concluded that this sample was coloured to simulate new milk,—a particularly reprehensible practice.

Sulphur dioxide was detected in the following samples :—

Table 29.

Nature of sample	No. of samples	Highest Parts per million	Limit allowed
Jam	9	45	40
Dried fruit (a) ...	6	1,310	2,000
Sausages	2	150	0
Preserved sausages ...	2	180	450
Beer	1	16	70
Cider	1	38	200
Unfermented cordial	2	290	350
Table jelly	7	90	...
Sweetmeats	4	45	...

Benzoic acid was detected and determined in two samples of un-fermented cordial :

350 and 400 parts per million (limit 600).

Benzoic acid was also found in one sample of mineral water :
120 parts per million (limit 120).

PART II. PORT SAMPLES.

During the year 120 samples were examined from the City and Avonmouth Docks. 81 samples were examined for the presence of preservative ; those in which preservative was found are tabulated below.

Table 30.

Nature of sample	No. of samples	Highest amount found. Parts per million SO ₂	No. in excess of limit	Limit allowed
Dried fruit (a) ...	4	1,630	—	2,000
Dried fruit (b) ...	19	850	4	750
Blackcurrant pulp	7	1,700	1	1,500
Strawberry pulp	7	1,726	—	2,000
Raspberry pulp ...	5	1,610	—	2,000
Cherries in brine	3	1,600	—	3,000
Glucose	2	348	—	450
Marshmallow cream	1	120	—	450
Gooseberry pulp	1	890	—	1,500
Strawberries in SO ₂ solution ...	10	2,280	5	2,000

(a) Apricots, peaches, apples and pears.

(b) Raisins and sultanas.

It will be seen from the above table that ten samples were found to contain sulphur dioxide in excess of that allowed by the Public Health (Preservatives, etc., in Food) Regulations, 1927.

One sample of damson pulp contained no sulphur dioxide.

Four samples of condensed milk and one of tinned cream were examined, giving the following figures on analysis :—

Table 31.

No. of sample	P. 8	P. 9	P.10	P.67
Total solids	74·3	32·7	76·4	31·5
Sucrose	46·2	0	43·0	0
Milk solids	28·1	32·7	33·4	31·5
Fat	0·55	9·85	9·95	9·1
Protein	10·55	8·35	9·35	8·75
Lactose	14·25	11·4	11·4	10·65
Ash	2·4	2·0	2·05	2·2
Milk solids (by addition)	27·75	31·6	32·75	30·7
Specific gravity at 60°C	1,397	1,092	1,338	1,086

These samples contained no preservatives, and conformed to the statement on label regarding their equivalence in pints. They were above the limits laid down in the Condensed Milk Regulations, which are :

		Milk solids :	Fat :
Full cream sweetened	...	31	9
Skimmed	..	26	—
Full cream unsweetened	...	31	9

The sample of tinned cream (P. 7) contained 25·9 per cent. fat, non-fatty solids 6·2 per cent. and ash 0·5 per cent. Preservatives and thickening substances were absent. It therefore contained the amount of butter fat stated on the label, which was 25 per cent.

The undermentioned samples from the port food inspectors were examined chiefly with the view of ascertaining damage during the course of transit :—

Three samples of broken rice were infested with maggots and weevils and gave evidence of fungal hyphae. These samples were unfit for human consumption.

Two samples of cleaned and broken rice : the starch and protein content was very similar in both cases and there was little to choose between them as regards their food value, but one was much cleaner than the other.

Two samples of glazed cherries : one sample was quite sound, but the other suggested contamination with acid fruit juice rather than with sea water.

Two samples of cocoa beans : one sample was sound, and the other damaged by fresh water, and not salt water.

One sample of dried apricots was damaged either by contamination with wine in casks or as the result of fermentation.

One sample of Australian flour showed no evidence of damage by sea water, but was undesirable on account of the presence of a few chrysalides and weevils.

Two butters were both free from contamination with brine, but one of them showed excessive moisture.

Two butters gave evidence of contamination with brine and rusty material on the external surface, but the interior was sound.

Two samples of denatured wheat were examined. Both samples were a mixture of unstained grains and grains stained with a dye of the eosin group, about 18 per cent. of the samples containing dyed grains. No ill effects were noticed in a parturient guinea pig or in its young, after a meal consisting of a mash of the dyed milled grains. Probably harmless to cattle.

Three samples of apples were examined for the presence of arsenic on the peel, but less than 0·1 part per million was detected.

Nine samples of sardines were examined for lead by the diphenylthio-carbazone extraction method and in all cases the amount was well below the limit of 20 parts per million recommended at the Conference of Port Medical Officers in October, 1933.

A variety of canned foods were examined for preservative, metallic contaminations and sterility. They consisted of cherries, pears, tangerine oranges, grape fruit, pineapple, tomatoes, spinach, celery, homogeneous vegetables, macaroni, stewed kidneys, crab and prawns. All of these were in good condition and passed as genuine.

Samples of dried egg, edible mutton fat, palm kernel stearine, tea, cane sugar, milk sugar and walnuts were examined. They were genuine and accorded with their description.

PART III.

Fertilisers and Feeding Stuffs Act.

Twenty-two samples were examined, twelve being informal samples, and ten formal. Sixteen samples were fertilisers, while the remaining six were samples of feeding stuffs. Detailed results of these examinations are given in tables 32 and 33.

Two samples of bone meal were guaranteed to contain 45 per cent. soluble phosphates (which is equivalent to 20·6 per cent. P_2O_5) according to the statutory statement. They contained only 0·26 per cent. soluble phosphoric acid and were thus deficient to the extent of 20·34 per cent. These samples contained however 20·54 per cent. and 19·4 per cent. total phosphoric acid respectively, and if the word "soluble" be deleted from the statutory statement then the amounts of P_2O_5 were within the limit of variation. Since the soluble P_2O_5 would be negligible in bone meal, it was probably the insoluble or total P_2O_5 that was intended, and an error was made in the statutory statements.

Two samples of feeding stuffs were slightly deficient in fibre, and the presence of cyanogenetic enzymes was demonstrated in two samples of linseed cake, the following amounts of hydrogen cyanide being determined :—

·055 per cent. and ·023 per cent.

The remaining samples gave figures which were considered to be within the limits of variation.

FERTILIZERS.

Table 32.

No. F. & F.	Nature of sample	% Phosphoric acid (P_2O_5)				(N) %		Potash		% Fineness	
		Soluble		Insoluble		Total		(K ₂ O) %			
		G	F	G	F	G	F	G	F	G	F
1	Superphosphate of lime ...	13.74	14.7	—	—	—	—	—	—	—	—
2	Superphosphate of lime ...	13.74	13.7	—	—	—	—	—	—	—	—
4	Root fertilisers ...	7.33	7.6	0.91	3.6	—	1.5	2.0	2.7	—	—
5	General horticultural manure	5.49	5.5	2.75	2.8	—	4.95	8.0	8.0	—	—
6	Bone meal ...	20.6	0.26	—	20.28	—	3.71	—	—	—	—
7	" " ...	20.6	0.26	—	19.14	—	3.71	—	—	—	—
8	" " ...	—	—	20.6	20.95	—	3.71	—	—	—	—
9	" " ...	—	—	20.6	21.35	—	21.07	—	—	—	—
14	Sulphate of ammonia	—	—	—	—	—	20.6	—	—	—	—
15	" " ...	—	—	—	—	—	—	48.0	48.7	—	—
18	Sulphate of Potash	—	—	—	—	—	—	48.0	46.6	—	—
19	" " ...	—	—	—	—	13.1	—	—	—	80.0	81.1
20	Basic slag ...	—	—	—	—	14.0	—	—	—	80.0	83.1
21	" " ...	—	—	—	—	14.0	—	—	—	80.0	84.4
22	" " ...	—	—	—	—	14.0	—	—	—	80.0	85.0
23	" " ...	—	—	—	—	13.5	—	—	—	—	—

G = Guaranteed. F = Found.

FEEDING STUFFS.

Table 33.

No. F. & F.	Nature of sample	Oil %		Albuminoids %		Fibre %	
		G	F	G	F	G	F
3	Screw pressed Calcutta linseed cake	12.00	11.7	28.00	25.4	—	—
16	Linseed cake ...	12.00	11.5	28.00	27.1	—	—
17	Linseed cake ...	12.00	11.8	28.00	29.4	—	—
24	Nutrex layers mash Z	7.05	6.35	14.66	15.4	9.60	6.4
25	Nutrex growers mash R.	5.05	4.7	11.81	13.0	5.95	5.1
26	U fattening mash	5.55	6.1	14.44	14.7	7.80	5.53

PART IV.

Analysis of water, river water and sewage.

Table 34.

Analytical data (chemical and bacteriological) of city water supply, 1935).

No. of sample	...	...	3	5	9	12	14	26	35	43	45	47
Date of collection	...	...	31st Jan.	28th Feb.	29th Mar.	30th Apr.	24th June	31st July	16th Aug.	20th Sept	30th Oct.	18th Nov.
Place of collection	...	...		La	laboratory	tap at Canynge Hall.						
Ph. ...	...	...	7.6	7.6	7.6	7.6	7.7	7.2	7.2	7.4	7.8	7.8
Total solids	...	...	31.0	28.2	29.5	26.5	28.1	21.1	29.25	27.0	28.3	26.3
Mineral matter	...	...	23.5	24.7	22.0	17.5	22.7	17.0	25.15	22.6	22.5	21.5
Organic matter	...	...	7.5	3.5	7.5	9.0	5.4	4.1	4.1	4.4	5.8	4.8
Cl. as chlorides	...	...	1.5	1.35	1.4	1.3	1.6	1.12	1.26	1.3	1.28	1.35
N. as nitrate	...	...	.032	.08	0.07	.05	.036	.032	.028	.084	.06	.07
Free ammonia	...	...	nil	.0005	nil	nil	.0006	nil	nil	trace	.0040	.0085
Albuminoid ammonia	...	...	.002	.0025	.003	.003	.0015	.002	.002	.002	.0015	.007
Nitrites	...	...	nil	nil	nil	nil	nil	nil	nil	nil	trace	nil
Total hardness	...	...	13.8°	13°	14.5°	13.5°	11.8°	12.8°	13.1°	13.0°	13.5°	14°
Permanent hardness	...	...	3.8°	4°	4.0°	3.5°	3.7°	4.0°	4.1°	4.5°	3.3°	4°
Metals	...	...	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil
Colonies per ml at 37°C	...	...	4	1	5	35	165	190	14	105	39	1
Colonies per ml at 20°C	...	...	141	171	220	105	112	386	142	115	403	179
Probable number Coli aerogenes organisms per 100 ml. of original water ...	...	...	8	4	0	0	37	50	2	5	0	0

Potable water.

44 samples were examined, 10 from the city water supply (see table 34), 2 from the storage tanks of ships in the port, 22 from the health department, 4 from the docks engineer, 2 from the city engineer and 4 from outside the city.

The samples from ships came from the town supply at Alexandria and from the river at Archangel. One showed slight depreciation due to storage conditions in transit, and the other gave some evidence of contamination with organic matter, which was probably of vegetable origin.

Of the 22 samples from the health department, 8 gave evidence of sewage pollution, 7 of past pollution and 4 were polluted with surface drainage. Three were unsatisfactory from a bacteriological stand-point.

The four samples from the docks engineer were from the Blaize Castle boring, and gave high figures for temporary hardness, whilst the two samples from the destructor trial-hole from the city engineer were very high in mineral content and hardness, rendering them unsuitable for economic purposes.

River water, and sewage.

One hundred and seventy-six samples of river water were examined for the city engineer. These were taken from different positions from Netham to Avonmouth, at high and low water, and at spring and neap tides.

In order to obtain an idea of the state of the river during the early part of the year when the frequent rainfall was giving the river a fresh water scour, as indicated by the flow over the weir at Netham, 84 samples were examined for the percentage saturation of dissolved oxygen and the percentage of sea-water. These were collected from six "datum" points, lying midway between two sewage outfalls.

The following table gives the *average* percentage of saturation of dissolved oxygen and sea water, and it is noteworthy how efficiently the river is scoured by the winter rainfall.

Datum points.

Table 35.

Point	Position	High Water		Low Water	
		Dissolved Oxygen per cent. of saturation	Per cent. of sea water	Dissolved Oxygen per cent. of saturation	Per cent. of sea water
A	Lysaght's bridge	88	0	90	0
B	Langton St. bridge	72	4	81	0
C	Vauxhall bridge	65	10	74	0
D	Pontoon, Hotwells	63	12	70	0
E	Sea Mills	85	40	59	3
F	Pill Ferry	89	51	66	5

Anomalous results were obtained from time to time at Sea Mills (point E) at low tide, believed to be due to the presence of a variable amount of silt. At points between the pontoon at Hotwells and Sea Mills (i.e. positions D and E), 20 samples of river water were collected, and in one series the amounts of silt gradually increased from 0.17 per cent. at point D, 0.59 per cent. at midway between D and E to 1.88 per cent. at Sea Mills (E), accompanied by a gradual decrease of saturation of dissolved oxygen from 57 per cent. and 33 per cent. to 10 per cent. On one occasion, the silt was as high as 4.5 per cent. at Sea Mills. In all cases the silt contained about 80—85 per cent. mineral matter. Hence it was evident that the presence of silt was the chief factor in producing the occasional low results for dissolved oxygen at Sea Mills.

At the same time as the above work was carried out, experiments were made with a view to observing the differences in the saturation of dissolved oxygen when the latter was fixed at the river-side and at the laboratory. It was shown that there is no difference, provided the fixation is done within an hour of collection.

Also the question was raised as to whether a displacement sampler should be used in the collection of tidal water, to obviate the contact of air in the sample bottle with the inflowing water. Consequently duplicate samples were collected in bottles containing air, and in bottles the air of which had been displaced by carbon dioxide.

It was found that there was a difference of about 3.5 per cent. saturation, which is an increase observed when transferring a large sample to a small bottle for the dissolved oxygen test. The magnitude of this error is no more than if the temperature of the sample were raised 1.5°C during the transference of the sample to the laboratory, and an error three times as great would be made if the composition of the river water were unknown and the percentage saturation calculated on fresh water instead of a mixture of sea-water and fresh water.

Seventy-two samples of river water were examined for septicity during the period of chlorination of the sewage. Although the samples at high tide were consistently good, the figures at low tide showed an inadequacy of chlorination.

Sewage.

One thousand, two hundred and seventeen (1217) samples of sewage were examined for the city engineer from seven different main sewers named T.U.V.W.X.Y. and Z. The "strength" of the sewage was measured in 177 samples by the chlorine demand (which is the amount of chlorine in parts per million of sewage, required just to produce a positive reaction with O-Tolidine reagent after standing for 10 minutes), and the oxygen absorbed from permanganate in four hours at 26°C in parts per 100,000. These samples were collected at two-hourly intervals throughout the 24 hours, and some very interesting graphs were obtained by plotting out the results.

The "peak" periods were obviously shown to be between 9 a.m. and 1 p.m. in all the seven sewers, and trade waste was usually indicated when the chlorine demand was much over 20.

The following table gives the extreme figures for two series of tests, the highest being usually found between 9 a.m. and 1 p.m. and the lowest at 5 a.m.

Table 36.

Main sewer				1st series	2nd series
T	Chlorine demand	...	...	33—4	26 2·5
	Oxygen absorbed	...	...	24—1	28—1
U	Chlorine demand	...	...	43—3	44—4
	Oxygen absorbed	...	...	24—4	28—1·8
V	Chlorine demand	...	...	27—16	21·5—3·4
	Oxygen absorbed	...	...	26—5	39—1·5
W	Chlorine demand	...	...	46—10	213—8
	Oxygen absorbed	...	...	17—3	18·5 -3
X	Chlorine demand	...	...	25—2	26—2·2
	Oxygen absorbed	...	...	15—0·6	23·5—0·4
Y	Chlorine demand	...	...	22—6	18—5
	Oxygen absorbed	...	...	11—1	12—1·2
Z	Chlorine demand	...	...	19·5—2·6	18—2·3
	Oxygen absorbed	...	...	16—2·6	13—1
Chlorine demand in parts per million					
Oxygen absorbed in parts per 100,000.					

It was from these results that evidence was obtained as would enable the chlorination at any point to be proportioned correctly to the nature of the sewage at that particular point.

During the months from late spring to early autumn, when chlorination of the sewage was in action, seven series of samples, comprising over a thousand samples, were examined for septicity. These were collected at points above and below the chlorination station (usually one manhole above and below) on all the main sewers, and where possible at the outfall as well.

The tests for septicity, due to Mr. Lea of the I.C.I. Technical Service Department, Liverpool, consisted of incubation of sewage (at laboratory temperature) in 8 oz. bottles, completely filled, for three and seven days, and numbers awarded in accordance with the following scheme :—

APPEARANCE.	Darkest	...	...	...	...	5
	Dark	...	...	...	...	4
	Less dark	...	...	...	...	3
	Light	...	...	...	...	2
	Lightest	...	...	...	...	1
ODOUR.	Strongly objectionable	...	...	...	...	5
	Objectionable	...	...	...	...	4
	Moderately objectionable	...	...	...	...	3
	Faintly objectionable	...	...	...	...	2
	Not objectionable	...	...	...	...	1

LEAD ACETATE.

Dark brown	...	...	...	...	5
Brown	...	...	...	...	4
Light brown	...	...	...	...	3
Faint brown	...	...	...	...	2
No colour	...	...	...	...	1

The three numbers thus awarded to a sample are added together, and if a total of six or more is obtained, the sample is regarded as septic.

	Appearance.	Odour.	Lead acetate.	Total.
Non-septic	1 to 2	1	2	5
Border line	2	2	2	6

These figures were used as a means of checking the adequacy or otherwise of the chlorination.

PART V.

Miscellaneous analyses.

- (a) Rag Flock Act.
- (b) Toxicology for police.
- (c) Examinations for medical officer of health.
- (d) Agricultural products
(grading and marking) Act.

(a) Rag Flock Act.

Four samples of rag flock were examined to see that they conformed to the standard of cleanliness laid down in the regulations under the above Act.

These contained 7·5, 7·5, 7 and 12 parts of chlorine per 100,000 as compared with the maximum of 30 parts allowed by the Act.

(b) Toxicological examinations.

Received from the police.

(1) The sample contained sweets of four flavours (curacao, rum, maraschino and cherry brandy). The soft centres of about a dozen sweets were dissolved in water, and distilled. No evidence of alcohol was given by the distillate.

(2) Sample of fruit consisting of 12 peaches and 12 pears. A mash was made by taking a portion from each of the 12 peaches and a similar mash was made from the pears. These two mixtures were examined for the following poisonous substances:—(1) arsenic, (2) lead and copper, (3) hydrocyanic acid (4) phosphorus and (5) oxalic acid. In all cases the results were negative.

Animals fed on the mashed peaches and pears survived, so it would appear therefore that the fruit was perfectly harmless.

(3) Received from Southmead Hospital:—

Stomach contents. After hydrolysis and extraction with ether, a crystalline residue was obtained, giving reactions for salicylic acid.

Also acetic acid was detected, thus showing the presence of acetylsalicylic acid or aspirin.

Tests for lead, arsenic and oxalic acid proved negative, but traces of bismuth were found.

A determination of the amount of aspirin in the stomach contents yielded 12.62 grammes or 194.7 grains. The amount of bismuth expressed as basic bismuth carbonate was 0.02 grammes = 0.3 grains.

It was concluded that more than 13 times the maximum medicinal dose of aspirin was present in the stomach contents.

(c) Examinations for the medical officer of health.

(1) Sample of marmalade for antimony contamination, also an enamel bowl.

Chippings from interior of bowl were powdered, dissolved in HCl and reactions were given for antimony.

No evidence of antimony was demonstrated in the sample of marmalade, but in spite of this it was extremely undesirable that any food should be stored or prepared in this enamel bowl, the glaze of which had been opacified with antimony.

(2) Enamel jug and lemonade made up from prescription from the chief assistant school medical officer.

Chipped portions from interior surface of jug were powdered and gave reactions for antimony; also borate was detected. The determination of antimony in this powder gave 2.5 per cent. as antimony trioxide (Sb_2O_3).

Action of lemonade in jug. A lemon syrup was made up according to prescription, and 2 oz. diluted to one quart with water, which was allowed to remain in the jug for 24 hours.

This lemonade was examined for antimony contamination, but only faint traces could be detected. The quantitative examination yielded 0.2 parts per million of antimony trioxide (Sb_2O_3) or .014 grains per gallon.

Thus, only faint traces of antimony were dissolved from the jug at the dilution specified, but much larger amounts would be dissolved out by a more concentrated lemonade, or if acted upon for a longer period. This type of jug is quite unsuitable as a container for acid drinks.

(3) Specimen of enamel from jug at Ham Green Hospital.

After powdering, digestion and fusion, the enamel gave no reactions for antimony, but good reactions were obtained for tin. Also traces of borate were detected.

The glaze of jug was therefore opacified with tin oxide, and harmless as a container for acid drinks.

(4) Sample of powder from van at Disinfecting Station and a sample of "Plymac."

The white powder had a slight odour of cyanide, and was almost entirely soluble in water. The solution gave reactions for zinc, sulphate and cyanide, and the following figures were obtained on analysis :

				Per cent.
Zinc oxide	(ZnO)	...	...	31.8
Sulphate	(SO ₃)	...	...	26.1
Cyanide	(CN)	...	...	4.0
Water	(H ₂ O)	...	...	36.2
This is equivalent to :				per cent.
Zinc sulphate	(ZnSO ₄)	...	...	52.8
Zinc cyanide	(Zn(CN) ₂)	...	...	9.1
Water	(H ₂ O)	...	...	36.2
				<hr/> 98.1

A laboratory experiment was started by exposing the sample of "Plymac" (galvanized iron and plywood) to the action of HCN gas for three days. A small white deposit was easily scraped off at the end of this period, and gave reactions for zinc and cyanide.

Hence it was shown that a "lining" of plymac was quite useless for the purpose of enclosing hydrocyanic gas.

(5) Examination of kitchen ware, consisting of the following :—

one aluminium saucepan
 one enamel jug
 two photo frames
 one cooking spoon
 one cooking toaster

These were said to have been subjected to HCN fumigation on three occasions.

The articles were immersed for some hours in water, the latter acidified and distilled. The distillate gave no reaction for HCN, showing that the articles were free from this gas.

(6) Sample of washing powder.

The following figures were obtained on analysis :—

				%
Soap	...	...	38.3	Free alkali hydroxide ... nil
Water	...	...	24.3	Arsenic nil
Sodium carbonate	20.3			Recommended solution =
Sodium silicate	6.2			1 heaped tablespoon of
Sodium perborate	10.3			powder to a gallon of water.
				Alkalinity of this solution
				expressed as anhydrous
				sodium carbonate=0.2%

It was suggested that its use might affect the hands of users. If used in high concentration and with prolonged immersion, the alkalinity might produce some irritation of the skin of the hands. But in view of its freedom from alkaline hydroxide, its use in dilute solution with short periods of immersion would be likely to affect only the most sensitive skins.

(7) Sample of bread, alleged to be stained with blood.

Benzidine—hydrogen peroxide test for blood—negative.

Ferrocyanide test for iron—present.

The small amount of red matter in the pieces of bread appeared to be rusty material, and not blood, probably accidentally introduced.

(8) Three samples of oil used in preparation of chipped potatoes.

Table 37.

	Nut oil	Special Cotton oil	Edible Cotton oil
Specific gravity at 60°F ...	·9171	·9219	·9218
Zeiss reading at 40°C ...	54·6	58·0	57·9
=refractive index at 40°C ...	1·4624	1·4645	1·4645
Acid value	·08	·12	·14
=Oleic acid %	·04	·06	·07

No difference could be detected between the oils in their behaviour on heating in an open dish. Evolution of fumes began at 250°C and slight decomposition occurred at 360°C when the oils were almost boiling. Fuming was enormously increased on adding a piece of raw potato to the hot oil. Even at 200° to 220°C, the optimum temperature for cooking, the steam escaping from the food caused a copious evolution of fumes.

(9) Soft soap for use in enemata from Ham Green Hospital.

The sample satisfied the 1932 B.P. as regards alkali hydroxide, but it exceeded the limit of alkali carbonate by 10 times.

(10) Sample of anaesthetic ether from Ham Green Hospital.

The sample was submitted to the tests for purity in the 1932 BP. Peroxides, acetone, aldehyde and methyl alcohol were proved to be absent and the sample satisfied the requirements of the B.P.

(11) "Clymax" liquid insecticide.

A clear, greenish-yellow oily liquid from which the figures were obtained as follows:—

Ash 0·32 per cent.

Specific gravity at 60°F 0·808

Zeiss at 20°C 29·2

=refractive index at 20°C 1·4446

Optical rotation +0°10'

Boiling point Distilled between 155° and 185°C.

Cyanide negative

The sample is thus entirely organic and devoid of cyanide. Suggestive of the presence of an essential oil.

(12) Sample of "Cimex" fumigator.

Consisted of a light yellow solid with red-brown particles distributed throughout.

It contained about 95 per cent. sulphur and 5 per cent. mineral matter, chiefly iron. Arsenic and cyanide were proved to be absent. This sample was a block of commercial sulphur, yielding sulphur dioxide on burning, and contained no cyanide.

Received from the Public Assistance Committee.

A number of samples of food were examined for the above committee and for the contracts sub-committee, these being collected by the food and drugs inspectors, and are merged in with the food and drugs work.

Twenty-five samples were examined apart from those collected by food and drugs inspectors, comprising the following :—

Vitaminised oleo-margarine	...	...	5
Yellow soap	...	...	5
Toilet soap	...	...	1
Brown windsor-soap	...	...	2
Primrose soap	...	...	2
Soft soap	...	...	1
Soap powder	...	...	4
Carbolic soap	...	...	5

These were examined with the view of ascertaining whether the samples complied with the specification.

(d) Agricultural Products Grading and Marking Act.

16 samples of eggs were received from the inspector under this Act.

Air spaces were noted, and then each sample was submitted to the rays of the ultra-violet lamp (by kind permission of the professor of physics of the University). Tests were made for preservation with oil and with silicate, after which the eggs were opened and tested for porosity.

Two samples were submitted as preserved, one of which being preserved with silicate, and the other with wax. The remainder passed the above tests and were unpreserved.

PART VI.**Gas Regulation Acts, 1920 and 1929.**

The Fairweather continuous recording calorimeter was in use at the Avon Street testing station for the whole year. This station is visited at least twice a week, for the purpose of applying the appropriate correction to the continuous chart for the period between each visit, and this correction is obtained by taking the mean result of two tests of the calorific value. The chart, which is

renewed each week, is read for each six-hourly period, the day's average obtained and finally the average for the week. At each visit, the continuous recording chart of the pressure gauge is examined, and also a three minute test made for the purity of the gas (*i.e.*, the absence of sulphuretted hydrogen).

Lest it may be assumed that the continuous recording calorimeter lessens the labours of the gas examiner, it may be pointed out that the amount of time spent in the extraction of the calorific value from the continuous record, working out of component errors, and performing two duplicate tests is greater than that required by "spot" tests.

This applies to the instrument when it is in good working order, but when, as has been the case in 1935, the apparatus gives considerable trouble, the work is more than double that of normal performance.

During the four months June to September, either there was a stoppage due to some defect, or the record was discarded for an error greater than ± 3 per cent. on about a dozen occasions, so that the recorder could no longer be regarded as continuous.

Owing to further trouble with the pen mechanism the apparatus was handed over to the Gas Company for repair by the manufacturers during October and November. It may be reasonable to suppose that the performance of the Avon Street Recorder, now over eight years old, will not be so trouble-free as in the past.

The number of days in the year for which calorific values were ascertained by the recorder was 286, and when the apparatus was out of action, 43 non-recorder tests were made.

At the Stapleton Road testing station, the prescribed number of testings is 204 (28 being allotted to Sundays) and these are made on the official Boys calorimeter. At each visit the pressure is measured on a water gauge, and the gas tested for sulphuretted hydrogen.

In a similar manner, the gas is tested at the Canons Marsh testing station, the prescribed number of testings being 152, including 20 on Sundays.

The results of the prescribed testings from the three stations are averaged for each quarter, and the following table gives the figures for the four quarters of the year :—

Table 38.

Quarter ended	Calorific value B.Th.U. (gross) per cubic foot	Pressure	H ₂ S
31st March	481.2	Above 2 inches	nil
30th June	480.9	" 2 "	"
30th September	480.9	" 2 "	"
31st December	481.1	" 2 "	"

The declared calorific value is 480 B.Th.U. (gross) per cubic ft.

PART VII.

Atmospheric pollution.

In conjunction with the Department of Scientific and Industrial Research, an investigation into the degree of pollution of the atmosphere of the city was begun on January 1st, 1935.

For this purpose two glass deposit gauges were set up, one on the roof of the Exchange in Corn Street, and the other at the Zoological Gardens, in order to give a comparison between an industrial and a residential area of the city.

The deposit gauge consists of a large glass bowl with vertical sides, connected to a reservoir for rain water, the whole being mounted on a stand. The area of the opening of the bowl is accurately known and from the amount of soot, etc., which collects in it and is washed into the reservoir by rain, it is possible to calculate the amount of deposit per square mile. While it is obvious that such a small collecting area cannot make any pretension to be accurately representative of the whole of the city area, it nevertheless gives reasonably comparative values for the soot and dust deposited.

Each month the reservoir containing the rain water with the solids—suspended and dissolved—is replaced by a clean one, and after measurement of the volume of the liquid collected the suspended soot, etc., is separated from the liquid.

An analysis is made on the soot and also on the solids dissolved in the rain water, and the results of these analyses for the year 1935 are striking.

These are appended in tables 39 and 40, and also graphically.

It soon became obvious in a preliminary experiment in December 1934 that the gauge at the Exchange Buildings was collecting a deposit which was not representative of the true state of the atmosphere, owing to the proximity of domestic chimneys. Accordingly it was moved to the flat roof of the Waterworks Buildings in Marsh Street, which is relatively free from gross local pollution, and it is from this position that observations have been made since February 1st, 1935.

I am indebted to the Bristol Waterworks Company, and to the superintendent of the Zoological Gardens, for permission to place the gauges in these two positions and for their willing help at all times.

The salient facts arising from the data in the tables are these—at the Zoological Gardens, a position in the most famous residential portion of the city, no less than 69 tons of insoluble matter including 45 tons of mineral matter, 23 tons of soot and $1\frac{1}{4}$ tons of tar were deposited per square mile during the year, while in the centre of the city the position was far worse—179 tons per square mile were recorded, which included 102 tons of mineral matter, 73 tons of soot and $3\frac{1}{2}$ tons of tar.

The amounts of tar in the soot were respectively 1·3 and 3·5 tons per square mile while the sulphates were equivalent to 25·6 and 41·3 tons of sulphuric acid per square mile.

Since this is the first year that any form of measurement of atmospheric pollution has been made in this city, it is interesting to note the position of Bristol in comparison with other large towns in the kingdom.

Taking the figures for total deposit (suspended and dissolved) from gauges placed in the centre of large towns where observations are made, it would appear that the air in the centre of Bristol occupies a position midway between the cleanest and the most polluted.

The average monthly total deposit varies between 59 and 13 tons per square mile for the air of these large towns, whereas about 27 tons of total deposit containing about 15 tons of insoluble matter (mineral matter, soot and tar) are deposited on a square mile every month in the centre of Bristol.

There are 103 deposit gauges in operation, situated in all parts of the country, indicating the growing attention which is being given to the subject of pollution of the air.

Composition of solids collected in deposit gauge at Zoological Gardens, Clifton, in tons per square mile.

Table 39.

Month	Rainfall in inches	Total Solid matter (suspended and dissolved)	Insoluble solid matter			Soluble solid matter				
			Tar	Carbonace- ous matter other than tar	Mineral matter (ash)	Loss on Ignition	Mineral matter (ash)	Sulphate (as SO ₃)	Chlorine (Cl.)	Ammonia (NH ₃)
January ...	0·94	12·58	0·07	2·61	3·92	1·07	4·91	1·71	0·85	0·04
February ...	3·23	14·29	0·11	1·75	3·96	1·68	6·79	1·60	1·87	0·05
March ...	0·68	11·00	0·07	1·79	3·66	1·38	4·10	1·40	0·66	0·04
April ...	4·71	13·56	0·09	1·59	4·10	1·53	6·25	1·49	1·37	0·06
May ...	1·08	10·86	0·12	1·49	3·57	1·12	4·56	1·15	0·56	0·03
June ...	3·47	16·85	0·15	1·82	5·87	3·15	5·86	1·60	0·77	nil
July ...	1·10	17·88	0·08	3·17	6·27	1·47	6·89	2·04	0·46	trace
August ...	2·03	9·90	0·09	1·27	2·55	0·96	5·03	1·67	0·34	0·04
September ...	6·94	22·09	0·07	2·86	5·41	3·23	10·52	1·68	4·26	0·04
October ...	6·73	13·00	0·17	0·99	1·38	5·23	5·23	1·40	3·10	0·10
November ...	5·54	13·22	0·19	1·90	2·59	3·59	4·96	2·06	1·04	0·09
December ...	4·70	15·56	0·07	1·87	1·86	5·73	6·03	3·13	1·24	0·10
Totals for the year 1935	41·15	170·79	1·28	23·11	45·14	30·14	71·13	20·93	16·52	0·59

Composition of solids collected in deposit gauge at Bristol Water Works building, Marsh Street, in tons per square mile.

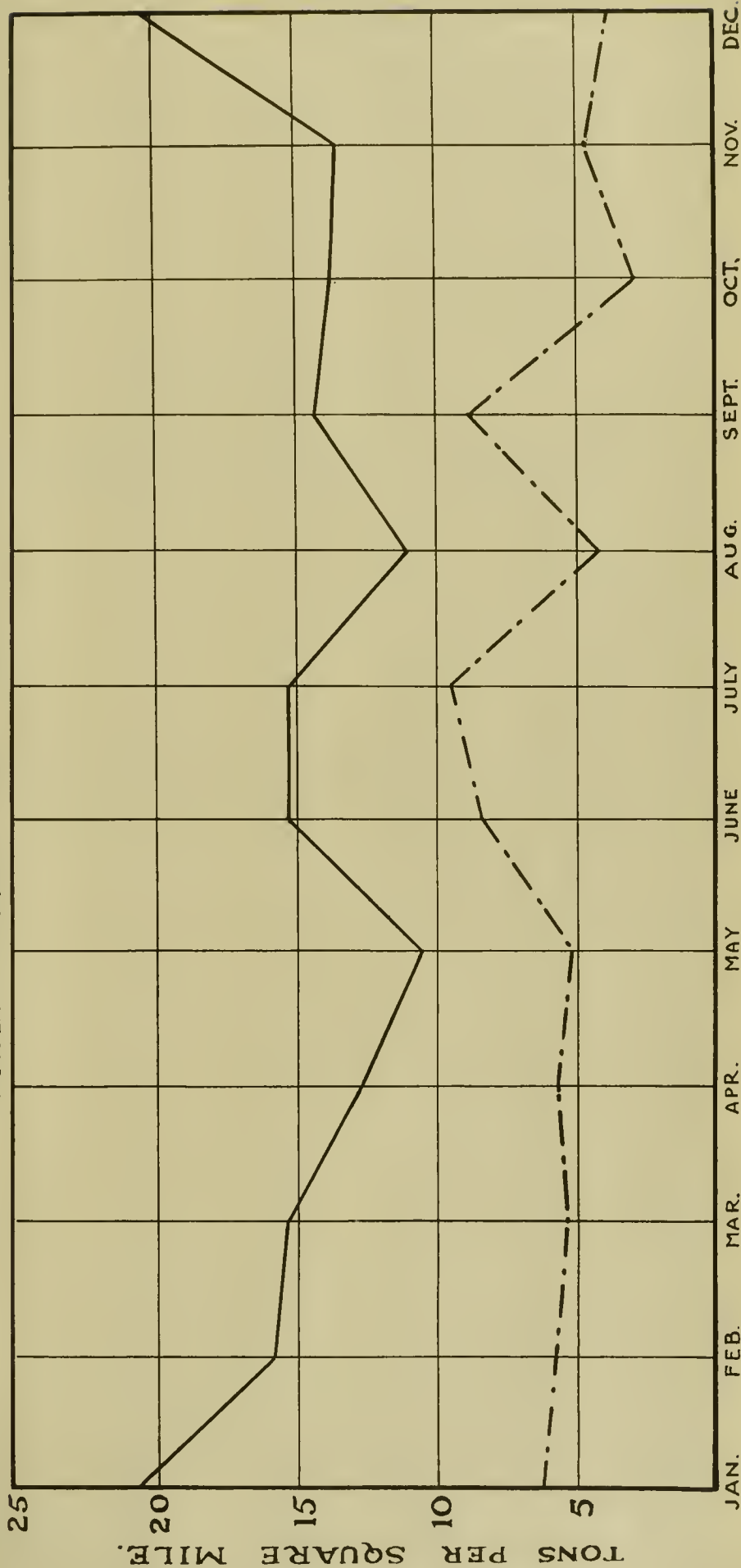
Table 40.

Month	Rainfall in inches	Total Solid matter (suspended and dissolved)	Insoluble solid matter			Soluble solid matter				
			Tar	Carbonaceous matter other than tar	Mineral matter (ash)	Loss on Ignition	Mineral matter (ash)	Sulphate (as SO ₃)	Chlorine (Cl.)	Ammonia (NH ₃)
January	0.91	30.46	0.89	7.62	11.91	2.75	7.29	2.46	2.08	0.24
February	3.24	28.65	0.29	6.80	9.08	2.62	9.86	3.20	2.68	0.10
March	0.70	22.74	0.19	5.79	9.34	1.68	5.74	1.92	0.91	0.05
April	4.80	23.08	0.21	4.81	7.55	1.99	8.52	2.64	1.95	0.12
May	1.12	16.28	0.16	3.68	6.75	2.68	3.01	1.39	1.18	0.05
June	3.48	26.13	0.27	5.19	9.72	5.87	5.08	2.71	1.13	0.08
July	0.60	24.96	0.18	5.94	9.03	2.86	6.95	2.69	0.69	0.04
August	1.74	18.67	0.16	5.01	6.22	2.03	5.25	2.29	0.54	0.03
September	6.20	50.94	0.25	6.70	7.61	22.99	13.39	2.92	4.38	0.09
October	6.82	26.74	0.23	5.76	7.94	5.08	7.73	3.45	3.97	0.12
November	5.61	23.94	0.27	6.72	6.49	3.37	7.09	3.39	1.48	0.11
December	4.57	35.47	0.40	9.00	10.74	7.10	8.22	4.69	1.98	0.15
Totals for the year 1935	39.79	328.05	3.50	73.02	102.38	61.02	88.13	33.75	22.97	1.18

ATMOSPHERIC POLLUTION, 1935.

INSOLUBLE MATTER INCLUDING TAR, SOOT, AND MINERAL MATTER.

WATER WORKS ——— ZOO - - - - -



1935.

**REPORT OF THE
PORT MEDICAL OFFICER OF HEALTH.**

R. H. Parry, M.D., B.S., M.R.C.P. (Lond.), D.P.H.

BRISTOL PORT SANITARY COMMITTEE.*Chairman*

COUNCILLOR E. T. COZENS, J.P.

ALDERMAN J. E. JONES, J.P.

ALDERMAN H. J. MAGGS, J.P.

COUNCILLOR H. S. EVANS

COUNCILLOR R. N. HARRISON

COUNCILLOR T. JEFFERIS

COUNCILLOR J. OWEN

COUNCILLOR V. J. ROBINSON

COUNCILLOR SIR LIONEL

GOODENOUGH TAYLOR

PORT SANITARY STAFF.**Port Medical Officer of Health*

R. H. PARRY, M.D., M.R.C.P., Lond., D.P.H.

**Deputy Port Medical Officer*

A. G. MORISON, M.A., M.D., D.P.H.

**Assistant Port Medical Officers*

R. A. READ, M.B., Ch.B., D.P.H.

C. D. PRESTON, M.B., Ch.B., D.P.H.

LLYWELYN ROBERTS, M.D., D.P.H.

*Inspectors***Chief Inspector*, J. A. ROBINSON, 1.2.

E. H. SCORRER, 1.2.

C. W. GOULD. 1.2.3.

T. E. HOWICK, 1.4.

Assistant Port Officers

C. A. SAMPSON

W. T. BOWEN, 3.

Rat Catchers

*C. H. RYMAN

*F. PEACOCK

*C. SCORRER

E. R. POOLE

1. Certificated Sanitary Inspector.
2. Certificated Meat and Food Inspector.
3. Master Mariners' Certificate.
4. Liverpool University Cert. San. Science.

** Also engaged in the city.***INSPECTION OF ALIENS.***Supervising Medical Inspector*, R. H. PARRY.*Medical Inspectors*

A. G. MORISON

R. A. READ

C. D. PRESTON

LLYWELYN ROBERTS

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BRISTOL PORT SANITARY AUTHORITY.

ANNUAL REPORT, 1935.

MY LORD MAYOR, LADIES AND GENTLEMEN,

I have the honour to present to you a report upon the work of the Port Sanitary Authority during the year 1935.

During another year the officers of the department have carried out their duties successfully. In spite of the close contact which the port has with countries where acute infectious diseases such as cholera, plague, or smallpox are frequent, no cases of an acute infectious nature appeared in the city or district during the year. This is no mere matter of 'good fortune' but it has necessitated continuous vigilance on the part of the responsible officers night and day. Ships from 'infected' or suspicious ports have been carefully inspected on arrival at the port and kept under observation whilst in port. The food brought into our port has been inspected carefully by skilled inspectors. As mentioned in previous reports, the results may not be very outstanding on paper as they are mostly negative, but the preventive work done at this port is of the first importance not only to the port and city but also to the whole country.

Particular attention is directed to the following matters in the report, viz. :—

- (1) Reference is made to the unsatisfactory methods of water storage on board ships generally (page 10).
- (2) Public Health (Preservatives in Food, etc.) Regulations. The facilities offered by the preventive medicine department have greatly helped the port sanitary officers in carrying out their duties so as not to interfere with the trade of the port. In page 20 reference is made to some of the difficulties met in connection with the preservatives in food regulations.

During the year under review, 1,077 ships arrived at Bristol ports from "foreign" countries and 6,320 from coastwise, making a total from "foreign" and coastwise of 7,397. Of these ships, 24 were from ports known to have been infected by plague. Your medical officers visited 297 ships altogether and in nearly all these examined the crews. The port sanitary inspectors boarded 2,197 ships.

The number of cases of sickness landed from vessels arriving at the port was 182, in addition 45 cases of infectious and other sickness were reported to have occurred on vessels during the voyage, but had been disposed of prior to arrival.

There was no case or suspected case of yellow fever, smallpox or typhus on board these vessels. Twenty cases were removed from ships to the isolation hospital for observation or treatment.

The medical inspectors of aliens inspected 103 aliens and subjected five of these to detailed examination. No certificates of physical incapacitation were issued during the year.

The detection of rodent plague is one of the most important duties of the port sanitary authority. All ships from infected or suspicious ports were examined thoroughly for rat indications and wherever possible samples of rats were obtained for pathological examination for plague. In all 344 rats from these ships were examined during the year. For the purpose of sampling the rat population in the vicinity of the quays, 598 rats were examined pathologically giving a total of 942 examined during the year.

The number of certificates issued under article 27 of the International Sanitary Convention of 1926 was as follows :—

Deratisation	...	...	...	19
Deratisation exemption			...	126
				<hr/>
Total	...	...	...	145
				<hr/>

Finally, the best thanks of the department are due to the assistance given to us by H.M. customs officers, the officers of the port of Bristol docks authority, the haven master and the pilots. I desire also to bring to your notice the excellent service given to the port sanitary authority during the year by all the officers under the supervision of my deputy, Dr. A. G. Morison.

I am, my Lord Mayor, ladies and gentlemen,

Your obedient servant,

R. H. PARRY,

Port Medical Officer of Health.

REPORT ON THE WORK OF THE PORT SANITARY AUTHORITY

BY

A. G. MORISON, M.A., M.D., D.P.H.,
Deputy Medical Officer of Health.

As in previous years this Report is prepared on the lines indicated in a memorandum issued by the Ministry of Health to Port Sanitary Authorities (Memorandum 174/S.A.).

A letter of the 25th November 1935 from the Ministry of Health indicated that any permanent arrangements which had been fully described in previous annual reports and had not been altered might be omitted from the report for 1935. Matters fully dealt with in previous reports, therefore, are not repeated in this report.

For many details referred to in the tables given in this report as well as for a year of smooth working, we are indebted to the co-operation of the officers of the Port of Bristol Authority (and particularly the haven master and his pilots), and H.M. immigration officers. Throughout the year also, we have had unfailing courtesy and help in every respect from H.M. customs officers. To all these our grateful thanks are given.

The Port of Bristol comprises the Avonmouth docks, the City docks, and the Portishead docks, which have a total water area of 188 acres, and a dock quayage of 37,220 feet. The Corporation of Bristol are the owners of the entire dock system, the administration of which is vested in a committee, the Port of Bristol Authority.

I.—Amount of Shipping entering the Port during the year 1935.

(AVONMOUTH, PORTISHEAD AND BRISTOL DOCKS)

Table A.

	Number *	Tonnage *	Number inspected		Number reported to be defec- tive	Number of vessels on which defects were remedied	Number of vessels reported as having or having had during the voyage infectious disease on board
			By the medical officer of health	By the sanitary in- specter			
Foreign { Steamers ... + Motor ... Sailing ... Fishing ...	1,077 — — —	2,695,283 — — —	249 48 — —	946 131 — —	156 1 — —	156 1 — —	23 — — —
Total Foreign ...	1,077	2,695,283	297	1,077	157	157	23
Coastwise { Steamers ... + Motor ... Sailing ... Fishing ...	4,812 1,508 — —	705,294 157,162 — —	— — — —	800 249 71 —	115 13 2 —	115 13 2 —	4 — — —
Total Coastwise ...	6,320	862,456	—	1,120	130	130	4
Total foreign and coastwise ...	7,397	3,557,739	297	2,197	287	287	27**

† Includes mechanically propelled vessels other than steamers.

* Figures supplied by Port Authority. The foreign tonnage includes vessels entering from a coastwise port to load for a foreign port.

** Excluding vessels having venereal disease on board.

II.—Character of Trade of Port.

Table B.

(a) Passenger Traffic during 1935.

No. of passengers		1st Class	2nd Class	3rd Class	Trans- migrants	Total
Inwards	Aliens	120	—	19	—	139
	British	2,010	—	—	—	2,010
Outwards	Aliens	113	—	—	—	113
	British	1,590	—	—	—	1,590

The foreign ports from which passengers principally arrived were:—

Kingston (Jamaica), Trinidad, Barbados, Port Limon, Puerto, Santa Marta, Cristobal, and West African ports.

(b) Cargo Traffic.

PRINCIPAL IMPORTS

Commodities							Tons
Grain	...	...	...	...	...	—	937,938
Oilseeds	...	...	...	...	...	—	70,144
Feeding stuffs for animals	...	...	...	...	...	—	146,988
Cereal products for human consumption	...	...	...	...	...	—	21,754
Fruit :							
Bananas	...	...	...	Bunches	...	5,966,086	83,638
Oranges and lemons	...	...	...	Cases	...	290,810	12,396
Other green fruit	...	...	...	...	...	—	6,111
Canned	...	...	...	...	...	—	8,655
Dried	...	...	...	...	...	—	5,144
Metals and ores :							
Brass	...	...	...	...	...	—	538
Copper	...	...	...	...	...	—	17,446
Iron	...	...	...	...	...	—	12,912
Lead	...	...	...	...	...	—	8,307
Spelter	...	...	...	...	...	—	3,249
Pyrites	...	...	...	...	...	—	3,318
Zinc concentrates	...	...	...	...	...	—	80,339
Paper	...	...	...	...	...	—	43,006
Petroleum...	...	...	...	...	...	—	719,628
Provisions :							
Bacon	...	...	...	...	...	—	290
Butter	...	...	...	...	...	—	8,540
Cheese	...	...	...	...	...	—	8,681
Lard	...	...	...	...	...	—	1,682
Frozen meat	...	...	...	...	...	—	11,247
Sugar :							
Refined	...	...	...	...	...	—	4,250
Unrefined	...	...	...	...	...	—	7,315
Glucose	...	...	...	...	...	—	874
Molasses	...	...	...	...	...	—	16,459
Tobacco	...	...	...	...	...	—	31,498
Wine	...	...	...	Pipes	...	6,193	3,716
"	...	...	...	Dozens	...	3,720	93
Spirits	...	...	...	Pipes	...	158	95
"	...	...	...	Dozens	...	35,950	719
Wood and timber	...	...	...	...	...	—	132,477
Wood pulp	...	...	...	...	...	—	67,744
All other goods	...	...	...	...	...	—	146,351
Total Foreign Imports						...	2,623,542

From the above figures it is obvious that the Port of Bristol maintains its position as a port receiving particularly large quantities of the grain, the tobacco and the bananas received into the United Kingdom.

(c) Foreign ports from which vessels arrive.

A complete list was printed in last year's report.

PRINCIPAL EXPORTS

Commodities						Tons
Chemicals :						
Salteake	...	...	...	...	...	6,702
Other kinds	...	...	...	...	...	1,990
Clay	...	...	...	...	...	3,064
Coke	...	...	...	...	...	4,818
Earths	...	...	...	...	...	2,522
Iron	...	...	...	...	...	4,256
Paper	...	...	...	...	...	566
Strontia	...	...	...	...	...	3,610
All other goods	...	...	...	...	...	21,069
Total Foreign Exports						48,588

III.—Source of Water Supply.

(a) *For the Port.*

(b) *For shipping.*

The water used in the Port and by ships in the docks is supplied by the Bristol Water Works Company. Hydrants are provided on the quaysides.

Where called for, water tanks in all vessels were washed out, cleansed, and cement washed under the supervision of the port sanitary inspectors.

(c) *No. of water boats and their sanitary condition.*

There are no water boats in use at Avonmouth or Portishead.

One water boat is in use at Bristol docks. This vessel is inspected periodically by the port sanitary inspector, and is cleansed and cement washed when necessary.

When inspecting cargo vessels we cannot be but surprised at times at the arrangements for the storage of the water supply on board, and at the unsatisfactory position of these storage tanks. The containers are usually square shaped steel tanks, the inside surface being cement washed at intervals varying from four to twelve months. We suggest that a better shape for these tanks would be cylindrical, and that they be fitted slightly tilted to one end, the lower end draining to a projection of inverted cone shape. This cone shaped part would act as a gathering space for any sedimentation, and be fitted with a draw-off cock. This would ensure the easy and complete emptying of the tanks before any re-filling by a fresh water supply. A manhole for cleansing and inspection purposes would also be required.

Sometimes the tanks are situated in tween decks against the engine room bulkhead, and often the manhole door is too small, making cleansing unnecessarily difficult. The containers should be situated at such a height as to give sufficient head of water to keep all the services pipes full, and it is perhaps surprising that glass-lined cylinder water tanks (something comparable to our land milk-carrying glass-lined tanks) show so little signs of becoming fashionable on board ship.

For such suggestions we are indebted to Port Inspector Gould and Port Officer Sampson.

IV.—Port Sanitary Regulations, 1933.

(1) *Arrangements for dealing with declarations of health.*

(2) *Boarding of vessels on arrival.*

(3) *Notification to the authority of inward vessels requiring special attention.*

The above headings were dealt with in detail in the annual report for 1933. These arrangements, together with the arrangements made under article 6 of the Port Sanitary Regulations

requiring notification by wireless message of any unusual circumstances on board by the master before arrival at the port, have all worked satisfactorily throughout the year under review. The latter arrangements, concerning the sending of wireless messages, were given in the report for 1934.

(4) *Mooring Stations.*

These remain as detailed in my report for 1933.

(5) *Particulars of any standing exemptions from the provisions of article 14.*

At this Port the scheme continues to be that every ship from foreign is met at the lock gates by a port sanitary officer who then makes contact with the medical officer on duty if, perchance, the medical officer be not already aware of the necessity of his visiting the ship. No standing exemptions under article 14 (1), therefore, have been issued. With the complete co-operation of the officers of H.M. customs already referred to, the scheme continues to function satisfactorily. There is no delay caused to any ship, nor is the personnel of any ship inconvenienced.

(6) *Experience of working of article 16.*

(7) *What, if any, arrangements have been made for :—*

- (a) *Premises and waiting rooms for medical examination.*
- (b) *Cleansing and disinfection of ships, persons and clothing and other articles.*
- (c) *Premises for the temporary accommodation of persons for whom such accommodation is required for the purposes of the regulations.*
- (d) *Hospital accommodation available for plague, cholera, yellow fever, smallpox, and other infectious diseases.*
- (e) *Ambulance transport.*
- (f) *Supervision of contacts.*

These matters were fully dealt with in the report for 1933.

(8) and (9) *Arrangements for (a) bacteriological or pathological examination of rats for plague and (b) for other similar examinations.*

Another full year of working of the agreement between the University and the Corporation provides evidence of the value of such arrangement to the Corporation health organisation.

All bacteriological and pathological examinations for port work are carried out at the department of preventive medicine of the University at Canynge Hall. Besides giving routine information as to the continued absence of plague in the rat population at the Port, this co-operative scheme helps in the prompt elucidation of the diagnosis of the various infectious diseases which must always be looked for by the medical officers of a port such as Bristol, trading as Bristol does with so many countries of the world.

During the year under review 942 rats were examined for plague, 344 being from the ships at the ports and 598 from the sheds and quays at the docks. The ratio of rats examined during the year was 35·5 per cent. from ships and 18·1 per cent. from sheds and quays.

(10) *Arrangements for the diagnosis and treatment of venereal disease amongst sailors under international arrangements.*

The routine questioning of the responsible officers on all ships concerning the possibilities of venereal disease amongst members of the crew, and the method of dealing with cases brought to light as reported upon last year, continued to give satisfactory service throughout 1935.

The following particulars relate to seamen treated at the municipal clinic during the year :—

1934		1935	DIAGNOSIS.			
			Syph.	Soft Sore	Gon.	Non-Ven.
212	CASES Total	246	86	4	84	72
194	New cases	212	63	4	73	72
707	ATTENDANCES Total	814	432	8	235	139
497	New cases	520	209	8	164	139
6	INPATIENTS Total	7	3	—	4	—
6	New cases	5	3	—	2	—
151	INPATIENT DAYS— Total	122	47	—	75	—
151	New cases	89	47	—	42	—

Table C.

Cases of infectious sickness landed* from vessels.

Disease	No. of cases during 1935		No. of vessels concerned	Average no. of cases for previous 5 years
	Passengers	Crew		
<i>Infectious diseases, including :</i>				
Whooping cough	—	1	1	0·2
Influenza	—	2	2	4·6
Dysentery	—	2	1	0·4
Pulmonary tuberculosis	3	6	5	3·8
Other forms of tuberculosis	1	—	1	0·2
Venereal disease	1	47	36	31·4
Malaria	—	9	7	4·6
Mumps	—	2	1	1·2

Other diseases not included in Table C above landed from vessels.*

Disease	No. of cases during 1935		No. of vessels concerned	Average no. of cases for previous 5 years
	Passengers	Crew		
Cancer	—	1	1	0·2
Non-malignant tumours	—	1	1	0·0
Rheumatism	—	1	1	3·6
Beri beri	—	1	1	0·8
Disease of thyroid glands	—	1	1	0·2
Leukaemia	—	1	1	0·0
Diseases of nervous system	2	5	7	7·6
Diseases of circulatory system	—	4	4	2·6
Aneurysm	1	—	1	0·0
Diseases of respiratory system	1	10	10	9·4
Diseases of digestive system	1	12	11	19·8
Diseases of genito urinary system	1	8	8	2·2
Diseases of skin and cellular system	1	18	19	11·0
Diseases of bones and organs locomotion	1	6	7	1·4
Traumatism	1	10	10	12·4
Ill-defined causes	1	19	14	10·8

* Includes only cases requiring medical attention, but all were not removed from ships to hospital.

Table D.

Cases of infectious sickness on vessels during voyage but disposed of prior to arrival.

Disease	No. of cases during 1935		No. of vessels concerned	Average no. of cases for previous 5 years
	Passengers	Crew		
<i>Infectious diseases, including :</i>				
Scarlet fever	—	1	1	0·0
Influenza	—	3	1	10·2
Dysentery	—	16	2	0·6
Venereal disease	—	2	2	3·4
Malaria	—	4	2	4·0
Mumps	—	4	2	0·8

Other diseases not included in Table D above on vessels during voyage but disposed of prior to arrival.

Disease	No. of cases during 1935		No. of vessels concerned	Average no. of cases for previous 5 years
	Passengers	Crew		
Cancer	—	1	1	0·4
Diseases of nervous system	—	1	1	0·8
„ „ circulatory system	—	1	1	2·6
„ „ respiratory system	—	4	3	3·8
„ „ digestive system	—	2	2	5·6
Diseases of genito urinary system	—	1	1	1·0
„ „ skin and cellular tissue	—	1	1	1·4
Ill-defined causes	—	4	4	5·0

Malaria on S.S. Constantia.

This vessel arrived at Avonmouth docks on the 4th March from the Gambia River, reporting three men sick. All showed pyrexia, while two exhibited pulmonary complications, and clinically the three cases suggested the differential diagnosis to be between the influenza group, the typhoid group and the malaria group. The cases were immediately transferred to Ham Green Hospital, appropriate disinfection carried out, and a fresh water supply taken on board. Routine investigation revealed that there were four parrots on board. They were healthy.

Full hospital observation with laboratory examination proved all the cases to be malaria.

Dysentery on S.S. Ashleigh.

On arrival from Odessa at Avonmouth docks on the 20th September, the S.S. Ashleigh reported having had fifteen cases of dysentery during her voyage. The illness commenced after the vessel sailed from Port Said, and during the ship's stay at Odessa five cases had been removed to hospital. The bill of health issued at Odessa showed a most useful note by the port medical officer to the effect that the ship had been appropriately disinfected and the water tanks attended to. On arrival here, all on board were examined in detail and no illness amongst the crew was elicited. After two days, however, two of the crew presented clinical symptoms of a relapse of dysentery, and in due course full bacteriological investigation showed *bacillus dysenteriae shiga* in the faeces of these two patients.

Again, all appropriate action on board the vessel was taken and particulars of the circumstances sent to the medical officer of health of the district to which any member of the crew was proceeding.

V.—Measures against Rodents.

- (1) *Steps taken for detection of rodent plague (a) in ships in the port, (b) on quays, wharves, warehouses, etc.*
- (2) *Measures taken to prevent the passage of rats between ships and the shore.*
- (3) *Methods of deratisation of (a) ships (b) premises in the vicinity of the docks and quays.*

Such steps were given in detail in the previous reports for 1933 and 1934.

During the year 1935, 19 deratisation and 126 deratisation exemption certificates were issued. Deratisation was carried out by fumigation in every instance, seven of the ships being done by sulphur and 12 by cyanide.

- (4) *Measures taken for the detection of rat prevalence in ships and on shore.*
- (5) *Rat-proofing.*

These matters continue as detailed in previous reports, particularly those for 1933 and 1934.

The following table deals with the certificates of deratisation and exemption issued during the last five years. The number of exemption certificates we were able to give indicates a state of affairs the older generations would have found difficult to credit—that so many ships can be and are now being maintained entirely free of rats. But continual vigilance must still be given, for the ship with a full complement of rats is still met with on occasion. That general advancement has been made, however, is undoubted, and the clean ship has a right to expect, and is beginning to demand, that she will not be in danger of becoming rat infested by the shore authorities not keeping their own premises free of rats.

Year	1931	1932	1933	1934	1935
Ships fumigated	27	25	26	29	19
Rats found on these ships :	361	676	864	739	623
Average number of rats per ship But it is relevant to note the greatest number of rats on a single ship was	13.4 71	27.0 142	33.2 201	25.5 234	32.8 167
Number of exemption certi- ficates issued	117	121	113	117	126
Rats found on these ships by trapping previous to issuing exemption certificates ...	17	6	1	19	7

Total number of such vessels arriving.	Number of such vessels fumigated by SO ₂	Number of rats killed.	Number of such vessels fumigated by HCN.	Number of such vessels on which trapping, poisoning, etc., were employed.	Number of rats killed.	Number of such vessels on which measures of rat destruction were not carried out.
1.	2.	3.	4.	5.	6.	7.
30	—	—	—	—	20	4 and 2 mice
						8.
						10*

* These ships were all examined for rat indications, but no measures were taken, either because there was no evidence of rats, or because of very short stay in port.

Table H.
Deratisation certificates and deratisation exemption certificates issued during the year.

Net Tonnage.	No. of ships.	No. of deratisation certificates issued.					No. of deratisation exemption certificates issued.	Total certificates issued.
		After fumigation with			After trapping, poisoning, etc.	Total.		
		H.C.N.	Sulphur	H.C.N. and Sulphur.				
1.	2.	3.	4.	5.	6.	7.	8.	9.
Ships up to 300 tons	19	—	—	—	—	—	19	19
„ from 301 tons to 1,000 tons	24	2	—	—	—	2	22	24
„ from 1,001 „ 3,000 „	29	1	5	—	—	6	23	29
„ from 3,001 „ 10,000 „	73	9	2	—	—	11	62	73
„ over 10,000 „	—	—	—	—	—	—	—	—
TOTALS	145	12	7	—	—	19	126	145

VI.—Hygiene of crews' spaces.

Table J.—Classification of nuisances.

Nationality of vessel.	Number inspected during the year.	Defects of original construction.	Structural defects through wear and tear	Dirt, vermin and other conditions prejudicial to health.
British ...	1,715	4	136	212
Other nations	482	—	23	83
Totals ...	2,197	4	159	295

During the year the considered recommendations regarding the hygiene of crews' spaces in merchant ships of the Association of Port Sanitary Authorities of the British Isles were considered by the Port Sanitary Sub-Committee, and it was resolved that these recommendations be approved.

The recommendations deal with matters such as that in the planning of new ships, the proposed accommodation for officers and crew should be approved by a committee, one member at least of this committee to be a medical sanitarian with a special knowledge of marine hygiene, that mess room accommodation should be provided apart from the sleeping quarters, that in the sleeping apartments metal construction should replace wood in the bunks; while standards for lighting, ventilation and heating, hospital provision and sanitation, together with control of food storage and water supply are suggested.

VII.—Food Inspection.

(1) *Public Health (Imported Food) Regulations, 1925.*

Public Health (Imported Food) Amendment Regulations, 1933.

Resort to legal proceedings was not necessary during the year.

Quantity of food imported and dealt with :—

Fresh, frozen or canned meat, etc.

Frozen beef	...	...	18,784 qrs.
" mutton and lamb	...	...	545,300 carcasses.
" pork	...	...	25,014 carcasses.
" "	...	...	5,861 sides
" pork legs	...	...	496 bags
" sundries	...	...	3,664 packages.
Cured or salted beef and pork	...	...	18 tons
Bacon and hams	...	...	290 tons
Canned meat	...	...	455 tons
Canned fish	...	...	908 tons

Fresh, dried and canned fruit, etc.

Bananas	...	...	83,638 tons
Green fruit	...	...	18,507 tons
Dried fruit	...	...	5,144 tons
Vegetables—raw	...	...	4,300 tons
canned	...	...	894 tons
Vegetables in brine	...	...	703 tons
Canned fruit	...	...	8,655 tons

Other foods :

Butter, cheese and lard	...	...	18,903 tons
Grain	...	...	937,938 tons
Cereal products for human consumption	...	...	21,754 tons
Feeding stuffs for animals	...	...	146,988 tons

Imported animals dead or slaughtered :—

Animals landed dead	...	...	...	...	nil
Slaughtered in lairs	...	...	...	...	4

Unsound food destroyed or otherwise dealt with so as not to be used for human food.

<i>Fresh or frozen meat, etc.</i>	Tons.	cwts.	qrs.	lbs.
Beef	—	4	1	12
Mutton and lamb	3	16	3	20
Pork	—	3	2	24

Canned goods.

	Tins			
Apples	22	—	1	20
Apricots	74	—	1	27
Apricot pulp	14	—	1	—
Beef	6	—	1	8
Cherries	3,794	2	2	11
Fruit salad	54	—	3	25
Grape fruit	17	—	—	11
Ham	6	—	3	12
Herrings	8	—	—	12
Loganberries	20	—	—	25
Milk (condensed)	26	—	—	13
Milk (evaporated)	70	—	2	2½
Peaches	221	—	6	15
Pears	549	1	7	15
Pilchards	4	—	—	4
Pineapples	1,284	—	19	7
Salmon	47	—	2	3½
Tomatoes	104	—	1	19
Tongue	2	—	—	2
	6,322			

Fruit and vegetables.

Apples	—	16	1	—
Apricots (dried)	—	3	—	—
Cherries (glazed)	—	7	—	—
Currants	—	2	—	—
Grape fruit	—	19	—	—
Lemons	—	2	2	—
Onions	—	8	1	—
Oranges	168	14	—	—
Potatoes	2	1	—	—
Sultanas	—	2	2	—

Other goods.

Barley	7	15	1	—
Butter	—	6	—	10
Cheese	—	—	3	7
Cocoa beans	—	5	2	24
Edible fat	4	15	—	—
Flour	5	7	2	—
Lard	—	2	—	—
Maize	10	19	—	—
Rice	36	10	—	—
Rice flour	—	2	—	—
Sugar	—	10	2	—
Wheat	102	7	3	19
	352	6	3	12

Public Health (Imported Milk) Regulations, 1926.

No milk (other than condensed, evaporated or dried) was imported during the year.

Public Health (Preservatives, etc., in Food) Regulations, 1925 to 1927.

The administration of the Public Health (Preservatives, etc. in Food) Regulations continues to demand attention from the port sanitary staff.

Strawberries.

During the year, for example, strawberries in solution were imported from Canada in casks labelled 6% solution SO₂. On chemical examination it was found that these strawberries contained sulphur dioxide in amount in excess of that allowed by the regulations. Much correspondence with the importers resulted. There could be no doubt of the good faith of the importers, so that it was inappropriate to commence proceedings under the regulations. It would appear, after very careful consideration of the point, that to substantiate a prosecution under these regulations, it is necessary to prove that any offence is a wilful one. After consultation with the Ministry of Health and full consideration of all the circumstances, a letter was addressed to the importers to be taken as a warning, and clearly indicating that the importers would be expected to take steps to ensure that future consignments complied with the requirements of the regulations. The importers answered that they would take up the matter with the appropriate agents in Canada.

During the course of this correspondence it was suggested by the importers that they might add hydrogen peroxide to get rid of the excess of sulphurous acid. Similar suggestions of the addition of chemicals to get rid of sulphurous acid, or of other material to dilute its concentration, have been made on other occasions, while of course article II (iii) of the regulations negatives any such treatment for fruit or fruit pulp. This requires to be fully recognised by the trade.

Blackcurrant pulp.

A sample of blackcurrant pulp was analysed and found to contain sulphur dioxide in excess of the amount allowed by the regulations. Two further similar samples, however, from the same consignment were found to be within the limits of sulphur dioxide content. Here again the inadvisability of legal proceedings is obvious. The consignment was released, it being pointed out, however, that the fact of the Port Sanitary Authority having refrained from taking any action with regard to any excess of sulphur dioxide which might be found in a particular sample would not prejudice any action which might be taken by any public health authority when the goods were exposed for sale by retail.

Sultanas.

During the year sultanas on four occasions were found to contain excess sulphur dioxide. After the excess was pointed out

to the importers they intimated their intention of re-exporting the offending articles, presumably under the ten days' guarantee referred to in our previous reports (1931 and 1934). Could not the trade arrange similar guarantees concerning the importation of all articles of food which might be treated with preservatives? Had such an arrangement been in operation concerning strawberries in solution, for example, it would have been easier to have dealt with the apparent infringement just referred to.

Denatured wheat.

One or two consignments of grain showing a new set of circumstances arrived from France. Some 18 per cent. of the grain had been obviously coloured red (eosin). The importers were interviewed concerning the matter, as we took the attitude that if this wheat were intended to be used for human consumption, the public would expect us to assure ourselves that it was fit for such a purpose. From the importers we gathered that this colouring of wheat was taking place in France, and that it was designated 'denatured wheat.' Other colours had been used on occasion they told us, such as methylene blue and fuchsin, although no such had been met with at the Port of Bristol. From our enquiries we were satisfied that this wheat was not being used for human consumption but for cattle or poultry food. The importers, further, quite pertinently pointed out that these coloured grains would surely colour any flour prepared from the wheat, so making it an article with no demand from the millers of wheat.

The Ministry of Health were informed of the circumstances and gave us the information that they understood the dyeing was done with the object of making the grain unsuitable for milling, so that it could only be used for animal feeding. No such consignments have been received at Bristol for several months, and we are satisfied that those which entered the Port were not used for human consumption.

The report of the public analyst on the sample was as follows :

" The major portion of the grains were unstained, the remainder being dyed red. The dyed grains were separated and weighed with the result in both samples of approximately 18 per cent. of dyed grains. The dye-stuff was soluble in cold and hot water, but not quite so soluble in alcohol, giving a fluorescent solution in each case. It had double-dyeing properties and appeared to be an acid coal-tar dye.

Examined spectroscopically, the aqueous solution of the dye showed a similar band in the green to that of Grubler's Eosin.

Per cent. dye as Eosin in the mixed wheat ... 0.025.

Arsenic and heavy metals : absent.

No ill effects were noticed in a parturient guinea-pig or in its young, after a meal consisting of a mash of the dyed milled grains.

These samples of wheat are a mixture of unstained grains and grains stained with a dye of the Eosin group, about 18 per cent. of the samples containing dyed grains."

The following samples were submitted to the public analyst during the year and examined by him for the presence of preservatives :—

Apples	3	Milk, condensed, full cream	2
Apples (dried) ...	1	Milk sugar	1
Apricots (dried) ...	1	Marshmallow cream ...	1
Black olives	1	Oranges, Tangerine (canned)	1
Brisling (canned) ...	2	Prawns (canned) ...	1
Black currant pulp ...	7	Peaches (canned) ...	2
Butter	2	Palm kernel stearine ...	1
Celery (canned) ...	1	Pineapple (canned) ...	2
Cherries in brine ...	3	Raspberry pulp ...	5
Cherries (canned) ...	1	Raisins	11
Cherries (glazed) ...	1	Sardines (canned) ...	4
Cocoa beans	2	Sugar	1
Cream (canned) ...	1	Strawberry pulp ...	7
Crab (canned) ...	2	Strawberries in solution	10
Damson pulp	1	Salmon (canned) ...	1
Egg (dried)	1	Spinach (canned) ...	1
Fruit salad (dried) ...	1	Sultanas	11
Glucose	2	Tomatoes (canned) ...	2
Grape fruit (canned) ...	2	Vegetables, homogenised	1
Gooseberry pulp ...	1	Walnuts, in shells ...	1
Kidneys, stewed (canned)	1	Walnuts, shelled ...	1
Macaroni	1		—
Milk, condensed, skimmed	1		107
Milk, evaporated ...	1		—

The number of samples found to contain preservative in excess of the regulations in previous years is according to the following table :—

1931	1932	1933	1934	1935
9	7	6	—	10

(2) *Shellfish.*

There are no shellfish beds or laying within the jurisdiction of the Bristol Port Sanitary Authority.

(3) *Samples of food examined by bacteriologist and analyst.*

Article.	Examination for	Result.
Apricots (dried)	Soundness	Traces of alcohol in distillate.
Butter ...	Presence of	No evidence of contamination but
	contamination	excess of water.
Butter ...	do.	Contaminated by brine and rusty material.
Brisling ...	Metals	Lead—faint trace.
Brisling ...	do.	do.—1·2 parts per million.
Celery ...	do.	do.—0·4 parts per million.
Cocoa beans ...	Water drainage	Damaged by fresh water.
Flour ...	Presence of	No evidence of damage by sea water.
	contamination	Two or three chrysalides were picked out as well as about half a dozen weevils.
Edible mutton fat ...	Soundness	Genuine.
Glazed cherries	Presence of	Small excess of chloride, negligible and not sufficiently great to suggest contamination by sea water.
	contamination	
Oranges (tangerine)	Metals	Nil.
Pineapple ...	Metals and	Tin—·003% ; sterile.
	sterility	
Pineapple ...	do.	Tin—·005% ; sterile.
Pears ...	do.	Metals—nil ; sterile.
Rice ...	Presence of	Infested with maggots and weevils and gave evidence of fungal hyphae.
	contamination	
Rice ...	Soundness	Genuine.
Rice (broken)	do.	Genuine.
Sardines ...	Metals	Lead—very faint trace.
do. ...	do.	do. —faint trace.
do. ...	do.	do. —3 parts per million.
do. ...	do.	do. —3 parts per million.
do. ...	do.	do. —faint trace.
do. ...	do.	do. —faint trace.
do. ...	do.	do. —faint trace.
Stewed kidney	do.	Copper—faint trace.
Spinach ...	do.	Lead—·4 parts per million.
Salmon ...	do.	Tin—faint trace.
Tomato ...	do.	Copper—faint trace
do. ...	do.	Nil.
Tea ...	Soundness	Genuine.
Wheat ..	Presence of	18% dyed grains. Appeared to be an acid coal tar dye.
	contamination	

MISCELLANY.*Parrots (Prohibition of Import) Regulations, 1930.*

Eight vessels arrived in 1935 with 13 parrots on board. Their importation was prohibited under the regulations. Four parrots were destroyed under supervision.

Canal Boat Inspection.

No canal boats were in use in the Bristol district during 1935.

Medical inspection of aliens.

During the year 139 aliens landed at Bristol, almost all first class passengers, in transit or visitors, from the West Indies, and medically presented no difficulties. Those referred for examination are examined on board while the ship is in the locks. Altogether, 103 were inspected by the medical inspector including five who were subjected to detailed examination.

Medical Inspection of Aliens.

Annual return by the medical inspector of aliens for year ended 31st December, 1935.

I.	Total	Number inspected by the medical inspector	Number subjected to detailed examination by the medical inspector	Certificates Issued				Transmigrants	
				Lunatic idiot or M.D.	Undesirable for medical reasons	Physically incapacitated	Suffering from acute infectious disease	Landing necessary for adequate medical examination	Tractoma favus, etc.
(a) Total number of Aliens (excluding Alien Seamen) landing at the Port	139	103	5	(a)	(b)	(c)	(d)	(e)	
(b) Aliens refused permission to land by Immigration Officer .. ..	..	..	..	..	..	..	..	..	..
(c) Transmigrants .. ..	..	..	..	..	..	..	..	..	..
2. Total Aliens arriving at the Port	139	103	5	..	..	..	..	..	..
3. (a) Total number of vessels carrying Alien passengers ..	..	..	64						
(b) Number of such vessels dealt with by the Medical Inspector ..	..	..	44						

TABLE A.

Analysis of Aliens landing (see 1 (a)).		Total
Residents returning .. ..	..	5
In Transit .. ..	..	31
Visitors .. ..	..	74
Business .. ..	..	8
Diplomatic .. ..	..	4
Seamen .. ..	..	13
Contract Seamen .. ..	..	1
Ministry of Labour Permit (M.L.) :—		
(a) Males .. ..	..	..
(b) Females .. ..	..	..
(c) Children .. ..	..	..
Aliens coming to settle not holding M.L. permits :—		
(a) Males .. ..	..	..
(b) Females .. ..	..	1
(c) Children .. ..	..	2
Total .. ..	..	139

TABLE B.

Classification of Aliens referred to the Medical Inspector by the Immigration Officer for detailed examination—		Examined	No. of Certificates issued.
(i) holding Ministry of Labour permits
(ii) intending to remain in the country over 3 months
(iii) intending to make their home in this country
(iv) students coming for educational purposes
(v) in regard to whom there is any mention of health as a reason for their visit
(vi) who appear to the I.O. (a) not to be in robust health ; (b) to be mentally or physically abnormal or sub-normal ; (c) to be dirty in their person or (d) are selected for special reasons
(vii) seamen travelling as passengers
Total

1935.

**REPORT OF THE
SCHOOL MEDICAL OFFICER.**

R. H. Parry, M.D., B.S., M.R.C.P. (Lond.), D.P.H.

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BRISTOL EDUCATION COMMITTEE.

Chairman—Alderman WALTER BRYANT, J.P.

Vice-Chairman—Alderman W. H. ACKLAND, J.P.

Hygiene Sub-Committee.

Chairman—M. GILES, Esq., J.P.

Alderman W. H. ACKLAND, J.P.

Alderman WALTER BRYANT, J.P.

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Councillor E. T. PUGH.

Councillor A. L. H. SMITH.

W. R. STRAKER, Esq., M.A., J.P.

Councillor T. H. J. UNDERDOWN, M.A., J.P.

Chief Education Officer—

M. O. MCAULIFFE, Barrister-at-Law.

CITY AND COUNTY OF BRISTOL.

Population (estimated Mid. 1935)...	...	...	413,100
Elementary Schools—			
Number of Schools	...	...	104
Number of Departments	...	...	200
Average Number on Registers	...	...	53,531
Average attendance	...	...	48,032

SCHOOL MEDICAL STAFF.

School Medical Officer and Medical Officer of Health.

R. H. PARRY, M.D., B.S. (Lond.), M.R.C.P., D.P.H.

Chief Assistant School Medical Officer.

A. A. DALBY, M.C., M.R.C.S., L.R.C.P.

Assistant School Medical Officers (Whole-time).

A. F. ALFORD, M.B., Ch.B.

MONICA A. O'DONOHUE, M.B., Ch.B., Ba.O.

A. R. FORBES, M.B., Ch.B., D.P.H. (resigned 31/8/35).

A. DICK, M.B., Ch.B., D.P.H. (resigned 9/9/35).

R. A. READ, M.B., Ch.B., D.P.H.

CRISSIE SHORT, M.B., Ch.B., D.P.H. (apptd. 1/9/35).

C. D. PRESTON, M.B., Ch.B., D.P.H. (apptd. 1/10/35).

L. ROBERTS, M.D., B.S., D.P.H. (apptd. 16/12/35).

Assistant School Medical Officer (Part-time).

S. B. GREEN, M.B., D.P.H.

Specialist Medical Officers.

Cardio-rheumatic Section - C. BRUCE PERRY, M.D., Ch.B., M.R.C.P.

Ear, Nose and Throat Section G. R. SCARFF, M.B., F.R.C.S. (E.).

Ophthalmic Section - R. R. GARDEN, M.A., M.B., D.O.M.S., D.P.H.

Orthopaedic Section - HUBERT CHITTY, M.S., F.R.C.S.

K. H. PRIDIE, M.B., B.S., F.R.C.S. (Hon. Asst.
Orthopaedic Surgeon).

X-ray Section - F. G. BERGIN, M.R.C.S., L.R.C.P.

Dental Surgeons (Whole-time).

W. H. B. STRIDE, L.D.S. (*Supervisory Dental Surgeon*).

A. LETHABY MORGAN, L.D.S.

MURIEL S. COSH, B.D.S.

MARION BENTZ, L.D.S.

H. HAZELL, L.D.S. (Jointly with the Health Committee).

School Nurses.

L. ELKINS, *Sister Superintendent*.

M. BASSETT

V. P. BOWLER

M. BRADLEY

P. M. COATES

E. M. CORDING

H. L. CROCKER

M. S. DALL

A. G. DAVIES

M. J. DEVLIN

E. S. FISHER

L. FOSTER (res. 23/4/35)

F. E. FRY

M. M. HUNTLEY

W. JOHNSON

D. S. M. LEIGHTON

(res. 29/8/35)

A. ROBINS

D. D. WESTON

P. PICTON

H. V. WILSON

D. R. WILLIAMS (apptd. 1/1/36)

Masseuses and Remedial Gymnasts.

M. ROSSI

B. D. ROBERTSON

C. V. ROBERTSON

Dental Assistants.

E. M. BATTEN

M. O. COATES

M. STEPHENS

P. K. DAVIES

G. M. NEEDS

Clerical Staff.

A. C. J. GREGORY, *Chief Clerk*.

J. H. MIDDLETON

W. H. HAUSER

A. MULLANY

S. I. EDWARDS

IVY M. PORTER

LETTY R. POW

ETHEL F. WEAVER

EMILY F. JONES

G. G. LAING

S. J. TUCKER (apptd. Sept. 1935)

K. A. ROBINSON

SUMMARY OF WORK DONE DURING 1935.

School Medical Officers :—

No. of Visits to Schools	-	-	-	-	736
No. of Children of Code Groups examined in Schools					16,556
No. of Re-examinations in Schools	-	-	-	-	4,907

Dental Surgeons :—

No. of Children examined	-	-	-	-	27,924
No. of Children treated	-	-	-	-	10,619

School Nurses :—

No. of Visits to Schools	-	-	-	-	2,040
No. of Examinations of Children	-	-	-	-	106,090
No. of Homes Visited	-	-	-	-	10,179

SCHOOL CLINICS.

Total Attendances	-	-	-	157,751
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	<i>No. of Attendances.</i>	<i>Work.</i>
Central Clinic -	30,809	Inspection clinic work, treatment of minor ailments, ear, nose and throat clinic, zinc ionisation, dental treatment, refraction work, X-ray treatment and treatment of scabies cases.
Bedminster Clinic	36,986	Inspection clinic work, treatment of minor ailments, ear, nose and throat clinic, dental treatment and refraction work.
St. George Clinic -	33,073	Inspection clinic work, treatment of minor ailments, ear, nose and throat clinic, dental treatment and refraction work.
West Bristol Clinic } (Closed 7 Oct., 1935)	18,354	Inspection clinic work, treatment of minor ailments, ear, nose and throat clinic, dental treatment and refraction work.
Portway Clinic } (Opened 8 Oct., 1935)		
North Bristol Clinic	16,316	Inspection clinic work, treatment of minor ailments, dental treatment and refraction work.
Redcross St. Spec. School Clinic	18,716	Inspection clinic work, treatment of minor ailments, massage, electrical treatment and remedial exercises.
Tuberculosis - Dispensaries	1,813	Tuberculosis cases.
Cardio-rheumatic Clinic	1,269	Cases of heart diseases and acute rheumatic infection.
Artificial Light Clinic.	415	Cases of anaemia and debility.

CITY AND COUNTY OF BRISTOL EDUCATION COMMITTEE.

REPORT

OF THE

SCHOOL MEDICAL OFFICER for the year ended
31st December, 1935.

INTRODUCTION.

I desire to draw special attention to the following matters—further details concerning which are found in the body of the Report :—

Heart Disease and Rheumatism. (page 27).

As I stated in my report for last year, one of the greatest problems in Bristol at the present time is that of rheumatism and rheumatic fever. 263 new cases attended the cardiac clinic—an increase of 36 over 1935. The total number of attendances at the clinic was 1,269.

Infectious Disease. (page 32).

Diphtheria.—The number of cases was 68 smaller than in the previous year, and there were 4 fewer deaths. Immunisation was carried out in schools as usual, and, although the number protected was small, it is gratifying to know that 2,571 were protected—approximately twice the number of the previous year.

Other Infectious Diseases. Chicken-pox, measles and german measles were prevalent during the year, but there were relatively few cases of whooping cough which was epidemic in 1934.

Dental Clinics. (page 23).

The Supervisory Dental Surgeon, Mr. W. H. B. Stride, L.D.S., draws attention to the inadequate dental service for the school

children of Bristol. I can only repeat what I stated in the report for 1934 that this problem, at the moment, is bound closely to the question of the re-organisation of the clinics. It is hoped that when efficient clinic buildings have been erected in the City, an extension of the school dental service will be made possible.

Aural Clinics. (page 21).

Mr. Gordon Scarff, aural surgeon, writes an interesting contribution on the work of this section. Whereas more than 1,000 cases of otorrhea were receiving treatment in 1928, less than 600 were treated in 1935. Mr. Scarff attributes this great drop to a marked improvement in the results following the dry treatment introduced in 1931.

Orthopaedic and Postural Defects. (page 25).

The Orthopaedic Surgeon, Mr. Hubert Chitty, comments upon the marked improvement in the health of the children from the point of view of orthopaedic deformities.

Provision of Meals. (page 37).

About 24,400 more free dinners were granted last year than in the previous year and more than half a million additional free milk meals.

There is a good deal of misconception as to the significance of the term 'malnutrition' as it exists in a child. Many other factors than mere quantitative lack of food are involved; for example, not infrequently there is lack of suitable diet; often a bad environment or even ill-health reduces the appetite or causes the food ingested to have less beneficial effects. Many of us think that lack of proper rest—children being allowed to roam about the streets late at night when they should be in bed, accounts for considerable malnutrition as well as for other physical subnormalities in the child. The nutrition survey of two entirely different areas in the City confirms our views and argues very strongly against previous published results of surveys of new housing estates. The areas of Barton Hill and Knowle West were selected. The former consists of houses of the old congested terraced dwellings not immediately suitable for demolition and the latter of an entirely new housing estate whose entire inhabitants are from slum-cleared areas. The

surveys have not yet been completed but the figures so far are as follows :—

	<i>Group C.</i> (slightly undernourished)	<i>Group D.</i> (badly undernourished)
Barton Hill (827) ...	16·7%	1·5%
Knowle West (1,023) ...	12·3%	·5%

It will be seen that the New Housing Estate has only a third of the percentage of badly undernourished children of the Barton Hill district and it has also a considerable percentage (4·4) fewer slightly undernourished. This is what one would expect when one has heard so often during the past year that the greatest problem of the parents on the new estates is the enormously increased appetite of the children.

It is hoped that the new surveys carried out by the school nurses in accordance with the scheme instituted at the Portway will result in the strict supervision of all children who may be undernourished.

Open Air Schools. (page 42).

Bristol is very deficient in accommodation for cases requiring the advantages obtainable only at an open-air school. This is particularly true in regard to residential open air schools. Frequently children are brought to the notice of the medical staff who require prolonged periods of residential treatment but are not sufficiently ill to be admitted to hospital. At the moment nothing can be done for these children except their admission to a day open-air school. From time to time cases of this kind have been admitted to Frenchay Park or to Southmead Hospitals for observation but it is both expensive and unsatisfactory and a residential open-air school is an urgent necessity in the City.

It is hoped that during the coming year with the opening of Novers Hill more open-air school accommodation will be available.

Carlton Park Special School. (page 43).

This school is not particularly suited for the work that is being done in it. A special report has been submitted to the sub-committee but it has not up to the present been possible to submit an alternative scheme.

Nursery Schools and Classes. (page 45).

In view of the limited accommodation available, admissions to nursery schools and classes are only made on the recommendation of the school medical officer. For this purpose there is close co-operation between the health visitors of the Maternity and Child Welfare Department and the School Medical Service. In this way infants who most require this accommodation are given preference. A complete survey of the City has been made by the health visiting staff, and it is submitted that further accommodation for approximately 5,500 infants between the ages of 2 and 5 is urgently required.

Physical Instruction. (page 34).

An interesting report by Mr Thompson, chief organiser of physical training, is included. He draws attention to some of the defects and to the progress made in organised games for school children in the city.

Eye Clinics. (page 20).

Mr. Garden includes a brief report upon the work of the ophthalmic section. The figures for various eye defects amongst the school children compare very favourably with those of previous years.

Health and education services—co-operation.

There is a distinct risk of failure of continuity in the care of the child "between the two stools" of the Education and the Maternity and Child Welfare Authorities or between the school medical officer and the medical officer of health. Bristol is particularly fortunate in this matter for co-operation is strongly enforced by close contact between the Education and the Health Committees in a Co-ordinating Committee under the Chairmanship and Vice-Chairmanship of the Chairman of the Education Committee and of the Health Committee respectively. The medical officer of health is also the school medical officer.

An example of close co-operation between the two services is found in the scheme whereby minor ailment treatment can be obtained for all children under five at the school clinics. This also applies to specialist treatment such as ophthalmic, ear, nose and throat, and orthopaedic. In the same way, cases for tonsils and adenoids operations can be admitted to the municipal hospital for

treatment. The working has been rendered easier by the fact that the same consultants in ophthalmic, ear, nose and throat, and orthopaedic treatment, have been appointed for both Committees.

The new clinic established at the Portway offered an opportunity for the drawing up of a mutual scheme to bring about complete amalgamation of the health services in that district.

A woman doctor with experience in all branches of the school medical service and with special experience in maternity and child welfare work is responsible for all medical work in the clinic. Her time is fully occupied in clinical work in relation to routine medical inspection at school, inspection clinic at the centre, infant welfare, ante-natal, eye refraction work, dental anaesthesia and diphtheria immunisation.

A senior school nurse has been appointed clinic nurse with a small additional remuneration whilst she is so employed; she is responsible for the general organisation of all the clinic work, for all minor ailment treatment and renders assistance during all sessions held at the clinic.

The second school nurse visits the schools in the district. She visits every school approximately once a month and sees every school child every six months and in addition to doing ordinary cleanliness inspection, she weighs and measures the child, notes the condition of the mouth, eyes and ears, watches for any obvious deformity, tests the vision and discusses the educational progress with the child's teacher where there is any abnormality. (In an ordinary cleanliness survey, a nurse usually sees between 100-120 children during a session, but under the new scheme, which provides for a much more thorough inspection, the nurse can inspect between 50-60 children only, at each session).

The visit of the school nurse to the school is notified to the head teacher in a letter in sufficient time for all arrangements to be made.

All cases that do not appear to be making real progress, mentally or physically, are referred to the clinic for special medical examination—the nurse herself being present with the doctor at these examinations. She becomes responsible also for following up the cases in the homes.

For the purpose of *maternity and child welfare* the district is divided into two parts, with a health visitor responsible for each. The health visitors also attend the infant welfare clinic, and each

supervises the weighing and attends at the examination by the doctor of the cases from her district. In home visiting, special attention is paid to those homes whence children fail to attend the clinic or do so irregularly.

The same routine applies in regard to expectant women attending for ante-natal instruction and examination.

In a clinic of this kind there is a good deal of work which can very well be allocated to a less trained and less expensive staff than a health visitor. For this purpose the two Committees have decided that a clinic assistant be appointed at a salary of £75 per annum. The qualifications required are—age about 18, with secondary school education, preferably with a school leaving certificate. It is expected that the girl appointed will later take up nursing as a career. In no circumstances is she permitted to retain the post after the age of 22 years, nor can she carry out any of the duties which demand the services of a qualified health visitor or of a trained nurse. There are many ways in which such an assistant can relieve these officers of minor duties in the clinic.

A dentist and a dental attendant are in constant attendance at the clinic. In addition to inspection of children in the schools of the district, he is responsible for their treatment and for the treatment of mothers (expectant and nursing) and infants referred to him by the clinic doctor.

A full-time clerk is allocated to the clinic and carries out all the clerical work in relation to the services of the clinic.

The dental record cards and the eye record cards of all children are filed and kept at the clinic. Dental cases are summoned for treatment according to the dentist's programme, the clerical work being carried out by the dental attendant. Notices are sent from the clinic to the schools two weeks previously of intended dental inspections. The clerk is responsible for summoning maternity and child welfare cases, and submits a weekly return to the central offices. In a similar way, the clerk deals with eye cases and is responsible for the filing of clinic sheets. She also notifies head teachers of exclusions from and fitness for school in accordance with the doctor's diagnosis. The names of any cases for the attendance officers or for the specialists who attend the central clinic, e.g., rheumatic heart, orthopaedic, X-ray, etc., are forwarded together with their cards to the central offices, whence all arrangements are made for the cases to be dealt with,

The activities of the clinic are shown in the following table :—

	Morning.	Afternoon.
Monday.	Minor ailment. Dental.	Medical inspection (mostly school children). Dental.
Tuesday.	Minor ailment. Ante-natal. Dental.	Dental.
Wednesday.	Minor ailment. Dental.	Medical inspection (mostly school children).
Thursday.	Minor ailment. Dental.	Refractions. Dental.
Friday.	Minor ailment. Dental. Aural (once a month)	Infant Welfare. Dental.
Saturday.	Minor ailment. Dental (Gas administration)	

The clinic is intended to be the health centre of the district. The nursing staff return to it to keep their records. The general medical practitioners of the district will get to know the doctor and where to find her. The dentist is able to arrange his own work—under general supervision from the central department.

But, above all, the clinic is an attempt to obtain one complete uninterrupted service—supervision of the expectant mother, the infant, and the school child. Every infant will be under the close supervision of a health visitor who probably has attended the mother ante-natally. The infant will be seen regularly and at least every two months even if it does not attend the clinic. The health visitor will keep the doctor well informed regarding the home conditions of all the cases. The same doctor attends the infant when it attends school and there is the closest contact between the health visitor and the school nurse working as they do in the same clinic. Every school child will be inspected by a health visitor every six months at least, and every school visited by the nurse approximately every month. There is no overlapping of departments or too much central control of details which frequently makes the work of the assistants mechanical and uninteresting.

If this experiment is a success and there is every reason for thinking it will be, it may be applied to other district clinics in the City. At the present time, two similar clinics are being erected in two other parts of the City, the buildings on these occasions being erected by the Health Committee.

The following publication was made during the past year :—

“ Rheumatic Heart Disease and Vitamin C,”

by Professor C. Bruce Perry

Lancet, August 24th, 1935. p. 426.

My best thanks are due to Mr. M. O. McAuliffe, Chief Education Officer, for his ever-ready assistance.

Without the help of Head and Assistant Teachers, much valuable work would have been impossible, and my sincere thanks are due to them and to my colleagues in the Education and other departments of the Corporation.

I wish also to record my appreciation of the excellent work performed by the Medical and Nursing Staff.

The report which follows has been collated by Dr. A. A. Dalby with the assistance of the Chief Clerk, Mr. A. C. J. Gregory.

R. H. PARRY,

School Medical Officer and

Medical Officer of Health.

I.—STAFF.

Dr. A. R. Forbes resigned on 31st August, 1935 and Dr. A. Dick on 9th September, 1935. Dr. Crissie Short was appointed on 1st September, 1935, Dr. C. D. Preston on 1st October, 1935 and Dr. L. Roberts on 16th December, 1935.

Miss M. M. Huntley resigned from the nursing staff on 29th August, 1935 and Miss D. R. Williams was appointed to fill the vacancy.

II.—CO-ORDINATION OF HEALTH SERVICES.

The scheme of co-ordinating the health services has worked smoothly and efficiently during the year.

The Chief Sanitary Inspector renders a periodic report on the sanitation of schools in the Bristol area for the information of the School Medical Officer.

Arrangements exist between the Education and Health Committees whereby children of pre-school age may be referred by the Maternity and Child Welfare Department to school clinics for the treatment of certain defects and diseases. Details of this scheme are given later in the Report in Section VII.

During 1935 the School Medical Officers, who are also Assistant Medical Officers of Health, gave a total of 172 sessions to duties under the Health Committee, as follows :—

Sessions devoted to Port work	...	...	...	137
Sessions devoted to Tuberculosis Dispensaries	...			24
Sessions devoted to Maternity and Child Welfare work	...	...	...	11
				<hr/> 172 <hr/>

III.—HYGIENE OF SCHOOL PREMISES.

Any defects discovered in schools by the School Medical Officer or his staff are reported to, and remedied by, the Sites and Buildings Department.

During the year the following new school departments have been opened :—

St. Bernard's R.C. Junior Mixed and Infants'.

On the 1st April, 1935, on the extension of the Bristol boundary, the Henbury C./E. Boys' and the Henbury C./E. Girls' and Infants' Schools were taken over.

IV.—MEDICAL INSPECTION.

(a) Arrangements for Inspection.

Except in the case of five Schools which have no suitable accommodation, the routine medical inspection of children is held on the school premises. The Head Teachers co-operate in the work very willingly, and their help is much appreciated.

A Nurse visits the school a few days before the Doctor is due, and enters details of height, weight and vision of the selected children on record cards. The Head Teacher sends a printed notice to all parents, stating date and time of the inspection, and inviting their attendance. The presence of the parents is most valuable, for not only is the Doctor able to obtain much useful information about the child, the family history, etc., but he has an opportunity of giving directly any required advice to the parent.

The schedule of medical inspection approved by the Board is followed.

(b) Groups Inspected.

The three code groups examined are :—

- (a) *Entrants*—children who first entered school within the previous twelve months.
- (b) *Second Age Group*—children between the ages of eight and nine years.
- (c) *Third Age Group*—children who have reached the age of twelve years.

Special cases are brought to the Doctor's notice during his visit to the schools, and re-examinations are made of children noted as having defects or ailments at a previous routine inspection.

In addition to the above, children aged fourteen years who are in attendance at Central Schools are now given a routine medical examination.

V.—FINDINGS OF MEDICAL INSPECTION.

A complete medical inspection was made of 16,556 children in the usual three age groups during 1935, and 23,302 were examined because of some special defect. In addition, 111 children (aged 14) were examined who were in attendance at the Central Schools.

(a) Malnutrition.

Of the 16,667 children examined during the year, 2,160 (13·0%) were placed in group C (slightly subnormal), and 108 (0·6%) in group D (bad).

(b) Uncleanliness.

Minor cases of dirty heads are still numerous. Special combs are supplied for the purpose of removing nits.

(c) Minor ailments and diseases of the skin.

Forty-one cases coming in this category were discovered on medical inspection, 36 of which required treatment.

(d) Visual defects and external eye disease.

Defective vision was reported in 1,183 cases, and there were 58 children discovered who suffered from squint. In addition, there were 24 cases of external eye disease but this does not include special cases referred to the School Medical Officer.

(e) Nose and throat defects.

			<i>Requiring treatment.</i>	<i>Observation.</i>
Chronic tonsillitis only	...		218	405
Adenoids only	...	...	15	54
Chronic tonsillitis and adenoids			218	106
Other conditions	...	...	23	14

(f) Ear disease and defective hearing.

			<i>Requiring treatment.</i>	<i>Observation.</i>
Defective hearing	...	...	19	3
Otitis media and other ear disease	...	...	18	11

(g) Dental defects.

In order not to interfere with the scheme of dental inspection, the Medical Officers only report dental defects which they consider require urgent treatment in view of the condition of the child's health. 1,380 such cases were reported.

(h) Orthopaedic and postural defects.

Defects under this heading requiring treatment were 85 in number, while there were 72 which had to be kept under observation. Only 4 cases of rickets were found and these were not sufficiently severe to need orthopaedic treatment.

(i) Heart disease and rheumatism.

The number of children suffering from organic heart disease totalled 140, and 90 had some functional disorder. Thirty-five cases of rheumatism and 15 of chorea were reported.

(j) Tuberculosis.

The following table shows the cases coming under this heading :

		<i>Requiring treatment</i>	<i>Observation.</i>
Pulmonary definite	...	3	2
Pulmonary suspicious	...	35	26
Glands, etc.	... ..	—	8
Other forms ...	... ..	9	7

(k) Other defects or diseases.

102 cases were found to require treatment and 111 needed observation only.

VI.—FOLLOWING UP.

The various defects found in the course of routine examinations are notified to the parents at the time of inspection, and by a written intimation from the Medical Department within a few days. The necessity for treatment is pointed out, and the parents encouraged in every way to seek the advice of the family doctor.

After a short interval, a report is received from the Head Teacher, and if no action has been taken by the parents, a Nurse calls at the home at least once and makes every effort to ensure that the medical advice has been followed. The procedure outlined above has in some cases to be repeated several times, but there is a growing tendency on the part of parents to take earlier action than used to be the case

SCHOOL NURSES.

The work of the School Nurse is one of the most important parts of the Medical Service. Her time is divided between the clinics, the schools, and the homes of the children. The following summary gives some idea of the scope and nature of her duties.

(1) Work in School Clinics.

In addition to the general inspection work, each clinic has several special departments in which a variety of specialized forms of treatment has to be carried out under the direction of the doctors

in charge of the different branches. The special forms of treatment are used chiefly for chronic ailments of the skin, ear, and eye, and the cases dealt with can rarely be treated satisfactorily at home.

(2) Work in Schools.

Some days before the Doctor's visit, children due for examination are weighed, measured and tested as to visual acuity. In this way a definite saving of time is effected, and the Doctor is enabled to devote more time to the individual child. 778 visits were paid to schools in connection with these duties last year.

With regard to verminous conditions, skin diseases and general neglect, in the course of 1,262 visits to schools 106,090 examinations of children were made including 7,568 re-examinations of children found to require attention on a previous occasion.

In this work the Nurse and Head Teacher act in close co-operation, and we are greatly indebted to the Teachers for their valuable assistance in this matter.

(3) Home-visiting.

In many cases, the parents do not accompany their children to clinic or medical inspection, and large numbers of visits have to be made at the homes for the purpose of interviewing them. Every effort is made in this way to encourage and assist them in obtaining treatment for ailments discovered in their children. During the year the number of visits was 10,179.

VII.—TREATMENT.

West Bristol Clinic was closed on 7th October and the new Portway Joint Clinic opened on the 8th October.

Five clinics, the Central, St. George, Bedminster, Portway and North Bristol, serve the schools in their respective areas. Each clinic has an Assistant School Medical Officer in charge, and is also visited by certain Specialists who attend at regular intervals.

At the Central Clinic, in addition to the provision of general treatment for the schools in the surrounding area, X-ray treatment and the bathing of scabies cases is carried out for the entire City.

The St. George, Bedminster, Portway and North Bristol Clinics are general treatment and dental clinics for their respective districts. Special reference is made to Portway Clinic in the Introduction.

Clinic work is going on all day, including Saturday mornings in the Central, Bedminster and St. George districts. At the Portway and North Bristol Clinics, a general inspection clinic is held on two afternoons weekly, and treatment is carried out every morning session.

All the clinics have now been equipped for refraction work and cases are examined and glasses prescribed by the School Medical Officers. Special cases are referred to the Specialist Ophthalmic Surgeon.

The Committee's Aural Surgeon has charge of the ear, nose and throat cases and attends four clinics. Zinc ionisation for the treatment of chronic middle ear disease is carried out under his supervision at the Central Clinic.

The Orthopaedic Clinic is situated at Redcross Street School and deals with cases from the whole City, including children under five.

Cases of acute rheumatic infection in any form and also of non-rheumatic heart disease attend the clinic which has been established in the University Centre of Cardiac Research at Bristol General Hospital.

Tubercular children attend the Municipal Tuberculosis Dispensary.

The total number of attendances at clinics during the year was 157,751.

(a) Malnutrition.

38 cases of malnutrition were treated at the clinics during the year. The treatment consists chiefly of provision of accessory foods, such as cod-liver oil and malt, etc., though many of these children are transferred to open air schools. Further reference to this subject will be found in Section XI.—Provision of Meals.

(b) **Uncleanliness.**

Severe cases requiring treatment at the clinic are comparatively rare, and it usually suffices to send instructions to the parent as to method of cleansing.

(c) **Skin Clinics.**

(1) *Scalp Ringworm.* 16 cases of scalp ringworm were dealt with during the year. Of these, 11 were new cases, and 5 cases were carried over from 1934. All the above were treated at the Committee's clinics.

X-ray Treatment.

Dr. F. Gower Bergin, who is in charge of this Department, reports as follows :—

“ There is very little fresh to report from last year.

The cases are getting fewer and fewer.

During the whole year only 7 cases were treated and there were no cases on the books at the end of the present year.

To all intents and purposes the disease has been stamped out of Bristol.”

(2) *Body Ringworm.* During 1935 there were 76 cases of this disease under observation, of which one was carried over from the previous year. All of these were treated at the school clinics.

(3) *Impetigo.* The school clinics treated 2,310 cases of impetigo during the year, a rapid cure being effected in all cases.

(4) *Scabies.* The bathing of children suffering from itch was carried out during the year at the Central Clinic on the lines described in previous reports. 126 cases were treated, 284 baths being given. The number of children excluded from school suffering from this complaint was 119.

Minor Ailments.

A very large number of miscellaneous cases was treated at the School Clinics. These include various surgical dressings of a minor character, and also various ailments that do not come under any of the above headings.

(d) **Eye Clinics.**

Mr. R. R. Garden, M.B., D.O.M.S. (Lond.), the Committee's Ophthalmic Surgeon, reports as follows :—

“ During last year, a total of 2,792 refraction cases were completed at the Eye Clinics. This figure includes a number of re-tests of children originally examined on previous occasions, and many of these required no change of lenses. In 447 of the new cases, it was not necessary to order glasses, but several have been kept under observation at school or clinic. Apart from the scheme, in 29 cases the parents made their own arrangements for examination and provision of spectacles.

For the convenience of parents and to save school time, the children, with few exceptions, are examined at the eye clinic nearest to their homes. A member of the optician's staff is in attendance at each refraction session to fit spectacles, adjust frames and arrange for payments. The glasses are thus obtained without delay, and the parents save the time and expense of visiting the optician's premises in the centre of the city. During 1935, spectacles were ordered for 1,782 children.

Myopic children are examined at least once a year, and special attention is given to the care of eyes showing evidence of progressive myopia. Cases of squint are detected and treated in the earliest stages, and we are indebted to the Child Welfare Department for referring to us children showing this defect under school age. New squint cases to a total of 111, and 356 observation cases seen originally on previous occasions attended during 1935. Of the new cases, 81 were under school age.

The work of seeking for children with defective sight in the Infants' Departments was continued during the year, and resulted in treatment being given in cases which otherwise might have been missed until considerably later.

External eye diseases are also treated at the clinics, and 6,710 attendances were made by these cases during last year.

As in previous years, much valuable assistance has been given in the department by those of the Assistant School Medical Officers who have acquired special experience in ophthalmic work.”

Provision of Spectacles.

The glasses are supplied at a contract price by the Committee's opticians. When the parents cannot pay the amount

due at once, arrangements are made for instalments, which are collected by the Attendance Officers.

Spectacles obtained through School Medical Officer ...	548
Purchased privately by parents	1,217
Supplied by Public Assistance Committee	12
	<hr/>
	1,777
	<hr/>

In addition to the above, 285 minor repairs were undertaken.

In necessitous cases, the cost is partly or wholly remitted at the discretion of the Committee, after inquiry into the circumstances.

(e) Defects of Nose and Throat.

The number of children found suffering from the above ailments was 2,104, of which 722 received treatment. Operative treatment of enlarged tonsils and adenoids is performed at the various City Hospitals, 403 cases being so treated.

(f) Aural Clinics.

Regular visits are paid to four clinics by the Aural Surgeon, who makes a complete investigation in each case. Almost invariably, a parent attends with the child, and any abnormal condition discovered is explained at the time. When operative treatment is required, printed instructions are given with information as to the days and times when this can be arranged at one of the voluntary institutions.

Practically all cases of chronic ear disease are now treated at the Committee's clinics. Satisfactory attention can rarely be given at home, and for the treatment of ailments such as these the school clinic is admirably suited. The Central Clinic is equipped with two batteries for zinc ionisation of cases with middle ear suppuration.

Mr. Gordon R. Scarff, F.R.C.S. (E.), the Aural Surgeon, reports as follows:—

“ During the past year, the number of children attending the Clinic was 843, of whom 597 were suffering from middle ear suppuration. Of the middle ear cases 120 were still attending at the end of the year, 28 of these being of less than a month's duration.

A retrospect of the past eight years is of interest in affording some idea of the progress which has been made in the treatment

of chronic middle ear suppuration. The table below gives a summary of the cases treated during these years.

Table A.

	YEAR							
	1928	1929	1930	1931	1932	1933	1934	1935
Number of cases of otorrhoea who received treatment	1,020	1,015	1,066	825	612	707	731	597

Factors affecting the reduction in numbers :

1. *Yearly incidence.* That this has very little effect is shown by the following table giving the number of new cases of aural discharge which are found by the School Medical Officers at their routine and special inspections.

Table B.

	YEAR							
	1928	1929	1930	1931	1932	1933	1934	1935
Number of new cases of otorrhoea found at routine and special inspections during the year	625	692	742	783	734	705	674	615

Of these a proportion clear up within a few days on local treatment and are not referred to the aural clinic, but the numbers which are referred are proportional.

2. *Removal of Tonsils and Adenoids.* Cases are investigated at the clinic as to the cause of the aural discharge, and where any focus of infection is found in the nose or throat these cases are referred to the various hospitals for treatment. It is impossible to get accurate figures of the numbers operated on at the hospitals and of the type of operation done, but roughly a half of the cases have had their tonsils and adenoids removed. The general impression gained during these years is that to be of benefit operative treatment must be undertaken early before either a chronic Eustachian infection or a chronic secondary infection in the middle ear is established. Further it has been found that while treatment

of the nose and throat condition does not prevent a subsequent recurrence of the middle ear infection, this recurrence tends to clear up more rapidly than where no treatment has been carried out.

3. *Ear operations.* A few cases have been referred to the hospital for removal of aural polypi and for mastoid operations. Cases referred for mastoid operation are those where the discharge is of long standing with a posterior or attic perforation, where there is evidence of cholesteatoma formation or indication for mastoid operation other than simple chronic discharge.

4. *Zinc ionisation.* This has been carried out in older children with discharging ears of the more chronic type which have proved resistant to ordinary methods of treatment. The table below shows a considerable proportion of cures by this method, and it has the advantage that treatment is only carried out once a week and the minimum of school time is lost.

Table C.

	YEAR					
	1930	1931	1932	1933	1934	1935
Cases treated	65	92	82	77	60	91
Cases cured ...	32	49	40	32	30	45

5. *Routine Treatment.* In 1928, the routine treatment was carried out by syringing the ear with boracic lotion, followed by the instillation of 1% mercurochrome or spirit. In the last six months of 1931 this was changed to dry treatment, the ear simply being cleaned out and 2% iodine in boracic powder insufflated. The improvement was very striking, ears becoming and remaining dry which had been discharging for months and even years. This method has been continued since then and the results have been most satisfactory. After years of experience with other methods the clinic nurses are all convinced of the very marked improvement which has resulted, and allowing for a small proportion of improvement resulting from the factors enumerated above, I think there is no doubt that the change in the routing method of treatment is chiefly responsible for the drop in the number of cases."

(g) **Dental Clinics.**

There are four whole-time dentists at the Central, Bedminster, St. George and Portway Clinics, while at North Bristol, Mr. Hazell,

who is appointed jointly by the Health and Education Committees, devotes seven sessions a week to the inspection and treatment of children in that district.

Mr. W. H. B. Stride, L.D.S., Supervisory Dental Surgeon, reports as follows :—

“ In the two years 1934 and 1935 excluding some 3,000 casual cases (sent to the clinics for urgent treatment) only 56,642 children received dental inspection. This is approximately the school population of Bristol, and indicates a child's chance of re-inspection as only once in two years. In actual practice this means that some receive re-inspection in 12 months and others from 18 months to 3 years. This comes hardest on the parents who regularly accept conservative treatment and who ask that inspection be made frequently enough to enable early treatment to be carried out.

It is already interesting to note the effect of the opening of the Portway Clinic on the consent rate of the schools affected. Where previously children must attend a clinic in the centre of Bristol for treatment the consent rate was only 40%, during the few months since the opening of the clinic the rate has risen to 66·6%, and in individual schools from 55% at Avonmouth to 70 and 80% at Shirehampton.

Shirehampton area now receives adequate attention as does Southmead, and the task remains as soon as Clinics are available of providing an adequate dental service for the rest of the city. It is unreasonable to expect a dental officer to carry out treatment for such large numbers as 10—13,000 children.”

The following Table gives details of the work done by the whole-time dentists during the year :—

No. of children inspected	...	...	...	27,924
No. of children referred for treatment			...	22,676
No. of children actually treated			...	10,619
No. of teeth extracted	Permanent	4,624	}	22,434
	Temporary	17,810		
No. of teeth filled	Permanent	5,664	}	5,759
	Temporary	95		
No. of anaesthetics (local)	...	...	...	4,432
No. of anaesthetics (general)	...	...	...	6,994
No. of dressings	...	...	...	2,209
No. of other operations	...	...	...	1,116
No. of attendances for treatment	...	...	...	21,307

The dental treatment of mothers and young children under the joint scheme of the Education Committee and the Maternity and Child Welfare Committee was carried on throughout the year, and particulars of the work done are given below :—

			<i>Mothers.</i>	<i>Young Children</i>
No. summoned	...	...	190	930
No. attended	...	...	189	768
No. inspected	...	...	189	768
No. treated	...	...	174	726
No. of attendances	...	...	691	1,748

The above work occupied 206 sessions of the Dental Surgeons' time, and 2,439 attendances were made. In 181 cases, mothers were fitted with dentures on the recommendation of the Dental Surgeons.

(h) **Orthopaedic and Postural Defects.**

The provision of treatment for cases of surgical tuberculosis in school children is the responsibility of the Health Committee, and accommodation is available at Frenchay Park Sanatorium for those requiring in-patient treatment. In regard to children with other crippling ailments such as infantile paralysis, congenital defects and heart disease there is accommodation for 68 cases at Winford Hospital School.

The Education Committee's Orthopaedic Clinic is situated in Redcross Street School, and the staff is kept very busy in treating the large number of cripples attending the school, children from elementary schools, and also cases under school age, the latter being mostly sent on from the various infant welfare clinics of the city.

The nurse in attendance is qualified in Massage and Medical Electricity, and is assisted by two masseuses, who in addition hold certificates for Remedial Exercises. The Clinic is equipped with the most up-to-date electrical and gymnastic apparatus for orthopaedic work, and practically any form of specialized treatment ordered by the Surgeon can be given on the premises.

Mr. Hubert Chitty, M.S., F.R.C.S., is the Orthopaedic Surgeon in charge of this centre, and his report is as follows :—

“ The Orthopaedic Clinic continues to function satisfactorily. No severe epidemic of infantile paralysis has occurred locally of late years so that the number of these cases requiring orthopaedic treatment tends to diminish.

Ricketty deformities do not present the problem which they do in many large cities. This speaks well for the general level of nutrition among Bristol children and also for the absence of atmospheric pollution in the city.

For the first time since its inception the number of cases attending the clinic has shown some decline, which points to the fact that the authorities have the situation in respect of our crippled children well in hand.

I am very glad to say that early treatment is steadily eliminating *avoidable* crippling as is also the excellent follow-up system which ensures that deformities once corrected shall not be allowed to relapse.”

The following Table shows the various ailments found amongst the patients seen :—

	<i>Age 5 and over.</i>				<i>Under age 5.</i>
Paralysis : (a) Flaccid	85		5
(b) Spastic	35		11
Tuberculosis of Bones and Joints	...		29		—
Congenital abnormalities of Bones					
and Joints	34		6
Amputations	6		—
Rickets	13		51
Various (flat-foot, spinal curvature, etc.)	330		48
			532		121

In addition to the above, 737 re-examinations were made during the twelve months.

The operations performed at Winford or one of the City Hospitals were as follows :—

Osteotomy	...	...	...	...	...	19
Tenotomy	...	...	...	...	...	14
Tendon slinging	...	...	...	...	...	4
Arthrodesis	...	...	...	...	...	5
For tuberculous abscess	...	...	...	...	...	7
For hammer toes	...	...	...	...	...	5
For torticollis	...	...	...	...	...	3
Dislocated hip	...	...	...	...	...	1
Appendicitis	...	...	...	...	...	1
For removal of exostosis	...	...	...	...	...	2
Radium treatment	...	...	...	...	...	1
Removal of foreign body	...	...	...	...	...	1
Fractures	...	...	...	...	...	1

In addition, 14 children received Hospital treatment.

The provision and maintenance of surgical boots and appliances is a most important matter at a clinic of this kind, and during the year 261 recommendations were dealt with through the agency of the School Medical Officer.

(i) **Heart Disease and Rheumatism.**

Dr. C. Bruce Perry reports :—

“ There is nothing further to add to the previous reports on the work of the Heart Clinic. The need for increased accommodation for heart cases at the Winford Hospital previously mentioned will be met by the provision of a new block which is in course of erection.”

During 1935, 263 new cases have attended the Cardiac Clinic, and 1,006 re-examinations have been made, making the total number of attendances 1,269. The following Table shows how the cases have been dealt with :—

SUMMARY OF CASES ATTENDING CARDIO-RHEUMATIC CLINIC.

28

	No treatment or restriction.	No treatment, but restriction of games.	Treatment, and attend school.	Treatment, and exclude from school.	Institutional treatment.	TOTAL.
NEW CASES.						
Rheumatic Heart Disease	33	32	12	6	33	116
No Organic Disease	101	—	3	1	20*	125
Congenital Heart Disease	12	5	—	—	—	17
Doubtful	4	—	1	—	—	5
	150	37	16	7	53	263
RE-EXAMINATIONS.						
Rheumatic Heart Disease	456	187	67	29	11	750
No Organic Disease	145	2	3	2	—	152
Congenital Heart Disease	67	6	3	9	—	85
Various	12	5	—	1	1	19
	680	200	73	41	12	1,006

* Chorea.

No. of individual children examined	...	838
No. of new cases for 1935	...	263
No. of re-examinations	...	1,006
Total No. of attendances	...	1,269

(j) Tuberculosis.

A total of 679 children was examined by the Tuberculosis Officer, of which 348 were old cases and 331 new. Of the latter, 39 were classified as definite pulmonary tuberculosis, 43 as cases of non-pulmonary tuberculosis, 14 as suspected tuberculosis, and 235 as non-tubercular.

During the year, 135 children were discharged from sanatoria under the Health Committee's scheme after an average period of 187 days' treatment.

The number of attendances of children at the Tuberculosis Dispensary was 1,813.

(k) Artificial Sunlight Clinic.

Dr. Marguerite Hughes, Chief Assistant to the Maternity and Child Welfare Department, who is in charge of this clinic, reports as follows :—

During 1935, 26 children of school age were given artificial sunlight treatment. Full details of the cases are given below :—

Group A. Debility following Orthopaedic Operations.

1. No. of cases treated	...	...	4.
2. Type of lamp	...	...	Mercury Vapour.
(a) Period of treatment	...	...	2-3 Courses, extending over 1 year.
(b) No. of doses	...	...	12.
(c) Strength of dose...	...	...	1 minute increasing to 12.
3. Other forms of treatment	...	...	Under supervision of Orthopaedic Surgeon.
4. Progress as regards general health	...	...	3 cases showed very good improvement.
5. Progress as regards special symptoms.	...	...	The fourth case who had a persistent discharging sinus remained stationary, and there was no improvement in local condition.
6. Unfavourable symptoms	...	...	None.
7. General conclusions	...	...	Ultra Violet light Therapy appears to be a useful adjunct in the after treatment of Orthopaedic cases.

Group B. Enlarged Cervical Glands.

1. Number of cases	...	...	2.
2. Type of lamp :	...	...	Mercury Vapour.
(a) Period of treatment	...	...	2-3 courses, extending over 1 year.
(b) Number of doses	...	...	12.
(c) Strength of dose	...	...	1 minute increasing to 12.

3. Other forms of treatment ...	Dental extraction in one case.
4. Progress as regards general health.	Good general improvement in one case. The second case had improved during one course but did not complete full treatment.
5. Progress as regards special symptoms.	Glands subsided, but did not completely disappear.
6. Unfavourable symptoms ...	None.
7. General conclusions	Insufficient number.

Group C. Bronchitis and Asthma.

1. Number of cases treated ...	6.
2. Type of lamp	Mercury Vapour.
(a) Period of treatment ...	2-3 courses, extending over 1 year.
(b) Number of doses ...	12.
(c) Strength of dose ...	1 minute increasing to 12.
3. Other forms of treatment ...	Tonics.
4. Progress as regards general health	Good improvement in 5 cases. One case discontinued treatment of own accord, before showing any improvement.
5. Progress as regards special symptoms.	Frequency of attacks was diminished in 3 cases.
6. Unfavourable symptoms ...	None.
7. General conclusions	Ultra Violet light treatment appears to be beneficial in children suffering from bronchitis and asthma, partly by increasing general resistance, and probably partly as a result of its bacteriocidal effect on organisms.

Group D. Alopecia.

1. Number of cases	3.
2. Type of lamp	Mercury Vapour.
(a) Period of treatment ...	2 courses—6 months.
(b) Number of doses ...	12.
(c) Strength of dose ...	1—12 minutes.
3. Other forms of treatment ...	Ointment in one case.
4. Progress as regards general health	Good.
5. Progress as regards special symptoms	In one case, re-growth of hair occurred. In the other 2 cases there was no improvement in local condition and both children were referred to hospital for local treatment.
6. Unfavourable symptoms ...	None.
7. General conclusions	Insufficient number.

Group E. General Debility.

1. Number of cases	...	...	11.
2. Type of lamp	...	...	Mercury Vapour.
(a) Period of treatment	...	...	2-3 courses, extending over 1 year.
(b) Number of doses	...	...	12.
(c) Strength of dose...	...	...	1 minute increasing to 12.
3. Other forms of treatment	...	...	Tonics and cod liver oil.
4. Progress as regards general health			Very good. General improvement.
5. Progress as regards special symptoms.			Tone, colour, appetite, sleep and weight were all definitely improved, in those children who completed their full course. Treatment was interrupted in 2 cases before full recovery had occurred. A third case was referred to the Tuberculosis Dispensary with a doubtful T.B. ankle.
6. Unfavourable symptoms	...	...	None
7. General conclusions	...	...	Ultra Violet light appears to be particularly beneficial to those children suffering from recent debility.

(l) Clinic for "Difficult Children."

It is hoped that a "child guidance" clinic, properly equipped and staffed will be established in 1936.

(m) Medical Treatment of the Pre-School Child.

Children under five years of age may be examined and treated at School clinics when reported by the Maternity and Child Welfare Department.

Any cases of squint, adenoids, dental decay, or crippling defect, are notified direct to the School Medical Officer and the parents are then asked to bring these children to appropriate specialists for examination. Details of these cases are given in the reports in Section VII, pars. (d), (f), (g) and (h).

The Health Visitors are provided with cards by means of which cases of diseases of the eyes, ears, skin and minor ailments can be referred to the clinic for the district.

The following cases were dealt with in this way during the year :—

Eye disease	...	...	...	...	22
Otorrhoea	...	...	...	...	107
Skin diseases	...	...	...	...	117
Minor ailments	...	...	...	...	127
Various	...	...	...	...	15
					—
					388
					—

VIII.—INFECTIOUS DISEASE.

The number of cases of diphtheria occurring in children of school age during the year was 377 as compared with 444 in 1934. The deaths from this disease were 4 as against 8 in the previous year.

During 1935, 2,673 school children received a full immunising course of inoculations against diphtheria.

The complete figures for the year are as follows :—

Number received full course of immunising inoculations	...	...	...	...	2,673
Number Schick-tested after immunising course					2,765
Number of observations			...	...	2,643
Results—					
Negative	...	...	2,571	}	2,643
Faint positive	...	...	15		
Positive	...	...	57		
Percentage negatives, 1935	...	...	...		97.3

No. Schick-tested before inoculations	...	...	390
Number of observations	...	...	383

Results—

Negative	222	}	383
Faint positive	...	...	4
Positive	...	...	157

The incidence of scarlet fever shows a slight increase over that of 1934, 741 cases as against 735, mainly occurring during the first and last quarters of the year.

The total number of non-notifiable diseases shows an increase of 3,002 as compared with 1934. The increase was largely due to the prevalence of chicken-pox, measles and german measles.

The following Table gives details of notifiable and non-notifiable infectious diseases for the year :—

A.—CASES OF NOTIFIABLE INFECTIOUS DISEASES AMONGST SCHOOL CHILDREN,
WITH CONTACTS.

1935.	Cerebro-Spinal Fever.		Polio- encephalitis and Poliomyelitis.		Scarlet Fever.		Diphtheria.		Encephalitis Lethargica.	
	Cases	Contacts	Cases	Contacts	Cases	Contacts	Cases	Contacts	Cases	Contacts
1st Quarter	1	2	—	—	239	304	177	365	—	—
2nd Quarter	2	8	—	—	144	194	68	176	—	—
3rd Quarter	—	—	—	—	144	215	82	167	—	2
4th Quarter	1	4	—	—	214	326	50	125	1	4
	4	14	—	—	741	1,039	377	833	1	6

CASES OF NON-NOTIFIABLE INFECTIOUS DISEASES AMONGST SCHOOL CHILDREN.

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Totals.
Whooping Cough ..	81	79	47	60	267
Chicken Pox ..	392	655	216	758	2,021
Mumps ..	15	8	2	6	31
Measles ..	304	543	333	1,381	2,561
German Measles ..	1,582	1,476	68	18	3,144
	2,374	2,761	666	2,223	8,024

B.—1935.

Cause of Death (Ages 5-15).

Scarlet Fever ..	..	..	..	..	..	2
Diphtheria and Croup ..	..	..	..	..	..	4
Influenza ..	..	..	..	..	..	—
Encephalitis Lethargica ..	..	..	..	..	..	—
Cerebro-spinal Fever ..	..	..	..	..	..	1
Tuberculosis of Respiratory System ..	..	..	..	..	..	6
Other Tuberculous Diseases ..	..	..	..	..	..	3
Cancer and Malignant Disease ..	..	..	..	..	..	2
Diabetes ..	..	..	..	..	..	1
Heart Disease ..	..	..	..	..	..	1
Pneumonia (all forms) ..	..	..	..	..	..	6
Rheumatic Fever ..	..	..	..	..	..	8
Appendicitis ..	..	..	..	..	..	5
Digestive Diseases ..	..	..	..	..	..	2
Congenital Dehility and Malformation ..	..	..	..	..	..	—
Violent Deaths ..	..	..	..	..	..	11
Nephritis ..	..	..	..	..	..	3
Measles ..	..	..	..	..	..	2
Other Diseases ..	..	..	..	..	..	11
All Causes ..						68

IX.—OPEN AIR EDUCATION.

Except for the fact that most of our modern schools are built on open air lines, no special provision is made for open air education in public elementary schools.

X.—PHYSICAL INSTRUCTION.

The closest co-operation exists between the School Medical Officer and the Organisers of Physical Training. Children unfit for games and exercises, or requiring modifications of these are notified to the Physical Instruction Department, and in the cases of spinal curvature, flat-foot, etc., occurring among students in Secondary Schools, special remedial exercises are given.

Mr. L. F. W. Thompson, Chief Organiser of Physical Training, reports :—

“ The year 1935 has seen the awakening of the national interest in physical education to a very marked degree. King George’s Jubilee Trust Fund and the Government’s manifesto to the electorate included provisions for an extensive advance in this field not only for the benefit of the school child but for the post school years as well.

To show the Government meant business the recent circular to Local Authorities has been issued indicating in which directions an improvement was looked for and offering encouragement by the provision of larger grants. Local Authorities are asked to take stock of their position to see how far the present facilities for physical education and recreation are adequate to the needs of their own areas. With this object in view the Bristol Education Committee’s Organisers of Physical Training are at the moment engaged in the preparation of a comprehensive report.

During the past year regular and systematic physical training has been given in the schools and although the weather has sometimes hindered the work the standard of achievement is improving. The new type of work has been found to appeal tremendously to children and teachers alike and one may safely say that it is the most popular subject in the curriculum.

Facilities in the reorganised senior schools are better than in the unreorganised schools and the physical training lessons can continue throughout the year unaffected by abnormal weather

conditions. The work here is of a more advanced nature and entails the use of portable apparatus and is usually taken by specialist teachers who have a special aptitude for the work. It is dangerous to put the physical training in these schools in the hands of teachers who have little or no training in the work.

In some cases where there is no hall incorporated in the school building, arrangements have been made by the Committee for the hiring of a nearby hall for physical training purposes. Many teachers in all departments have taken the opportunity of improving their knowledge by attending "Refresher Courses," Film Shows and Demonstrations which have been held during the past year. The "Refresher Courses" which have been taken by the Organisers so far have dealt mainly with the 1933 syllabus of Physical Training, but it is hoped to run similar courses in the near future especially for teachers in reorganised senior schools.

Vacation Courses in this subject were attended last year by a number of teachers and the policy of the Committee in assisting with the payment of fees, etc., is to be commended.

Some additions have been made in playing field accommodation during the past year, and public parks and open spaces continue to be used to the fullest extent. Owing, however, to the lack of properly marked out pitches, the maximum benefit is not always obtained from their use.

The success achieved in Leagues and other competitions by the schools points to the fact that good training is being given in the playing of the national games. It is well to remember, however, that the fundamental training in these may be obtained from other and smaller games which often require only a minimum of space.

Play Centres still continue to serve a very useful purpose and are well attended, the average weekly attendance for the five centres being 4,436. The average attendance per evening was :

Baptist Street	...	...	203
Bedminster	...	...	215
Carlton Park	...	...	316
Hotwells	...	...	180
St. Philips	...	...	195

In the above winter play centres a wide variety of activities is carried on, including games, drawing, painting, stencilling, craft

and reading. A very popular feature of the past year has been the occasional cinematograph show kindly arranged by the Education Committee. Two summer play centres were also held during the past year and it is proposed to increase this number next year and establish them in the Moorfields, Bedminster, St. Philip's and Shirehampton districts.

Swimming.

The swimming season proved quite a successful one in spite of adverse weather conditions at the beginning and at the end of the season. The number of Corporation Certificates gained was as follows :—

Secondary Schools ...	...	215
Central Schools	...	143
Elementary Schools	...	2,213
Junior Instruction Centres		33
		<hr/>
Total	...	2,604
		<hr/>

Life Saving Awards :—

Elementary...	...	...	713
Intermediate...	...	...	446
Bronze	...	...	223
			<hr/>
Total	...		1,382
			<hr/>

There was no test in 1935 for the Mile Certificate.

The recently instituted idea of sending newly promoted children to the Baths after the summer holidays proved very successful and it is proposed to adopt this method in future schemes.

There are a number of organisations in existence for the training of boys and girls in games and swimming outside school hours, viz. :

Bristol Schools' Football Association,
 Bristol Schools' Cricket Association,
 Bristol Schools' Athletic Association,
 Bristol Schools' Rugby Union,
 Bristol Schools' Girls' Games Association,
 Bristol Elementary Schools' Swimming Association.

In conclusion, I should like to pay a tribute to the enthusiasm and devotion of the many teachers who give so much of their own free time and their energy to the furtherance of the children's interest in these healthful activities.

XI.—PROVISION OF MEALS.

During the year, 281,537 free dinners have been granted as compared with 257,306 in 1934. In addition, 728,737 free milk meals were given.

Following the issue of Circular No. 1,437, a scheme was evolved by the School Medical Officer regarding the question of malnutrition. Not only the School Medical Staff but Head Teachers were asked to notify all children whom they considered would benefit from free meals and/or milk. As soon as cases are notified arrangements are made for their inspection by a Medical Officer, who issues a certificate recommending meals and/or milk for a period of six months. On receipt of the certificate, meals commence at once pending the investigation into the family circumstances.

During 1935, 4,544 children were reported of whom 4,053 were recommended extra nourishment as follows :—

Meals	...	...	...	...	...	54
Milk and meals				...	...	1,414
Meals, and milk twice daily...					...	42
Milk only	...	...	...	...	...	2,376
Milk only twice daily				...	...	167
						<hr/>
						4,053
						<hr/>

Towards the end of 1935, it was decided to conduct a complete nutrition survey in two areas with entirely different types of dwelling—one the old, congested terrace dwelling not immediately suitable for demolition (Barton Hill) and in an entirely new housing estate with inhabitants from slum cleared areas (Knowle West). The figures so far available, are of considerable interest when

compared with the nutrition return found at routine medical inspection during 1935, which were as follows :—

No. examined	*A.	B.	C.	D.
Medical Inspection ... 16,667	4,275 = 25·7%	10,124 = 60·7%	2,160 = 13·0%	108 = 0·6%
Nutrition Surveys :—				
Barton Hill Area ... 843	192 = 22·78%	497 = 58·96%	141 = 16·72%	13 = 1·54
Knowle West Area ... 1,003	148 = 14·77%	727 = 72·47%	123 = 12·3%	5 = 0·5%

* A.—Excellent. B.—Normal. C.—Slightly subnormal. D.—Bad.

Groups C. and D. are now in process of being further investigated at the Clinics and the result of the investigation will be reported in due course.

XII.—CO-OPERATION OF PARENTS.

Some days before a routine medical inspection in school, written notification is sent to the parents requesting their attendance at the examination and during the year the number present at routine inspections was 12,981. The following is an analysis of these attendances :—

Code Groups	No. of Children Examined	No. of Parents present	Percentage
Entrants	5,199	4,877	93·81
Second Age Group	5,764	4,565	79·20
Third Age Group	5,593	3,539	63·27
	16,556	12,981	78·76

At the clinics, when any special examination is required (e.g. for eye, ear and orthopaedic cases) the parent almost invariably accompanies the child.

The increasing interest amongst the parents in regard to matters of hygiene is maintained, and on the whole they co-operate readily with the School Medical Department in any efforts to improve the health of the children.

Co-operation of Teachers.

It is again our very pleasant duty to express our gratitude to the Bristol teachers for the invaluable and ungrudging help given to us during the year. As our work increases we realize more and more to what extent the efficiency of our service depends on this assistance.

Co-operation of School Attendance Officers.

A close relationship exists between the School Medical and School Attendance Departments. The Superintendent Attendance Officer and his staff provide reports on a large number of children, and assist greatly in securing the attendance of absentees for examination at clinics. By their visits to homes, they obtain information in regard to environment and other factors which may affect the health of children, and this is often of great assistance to us in dealing with difficult cases. A number of parents who refuse to obtain treatment for their children are visited and action is taken in cases of neglect and cruelty.

The Attendance Officers also help by collecting the small weekly instalments by which the majority of parents prefer to pay for spectacles and surgical appliances supplied to their children. This means a great deal of home visiting and a considerable amount of clerical work.

Co-operation of Voluntary Bodies.

The Bristol Crippled Children's Society, assisted in dealing with a large number of crippled cases during the year. 95 were sent to the Winford Orthopaedic hospital for prolonged periods, 6 to other hospitals at the seaside or in the country, 42 to convalescent homes, and 23 to farms.

The Bristol Crippled Children's Society have now discontinued their financial support in regard to the supply of surgical appliances to school children, prescribed at the Orthopaedic Clinic, the whole cost of which is now borne by the Education Committee. The

Society still assists, however, in the case of appliances supplied to patients while in Winford Orthopaedic Hospital.

The Bristol Crippled Children's Society Committee, of which Dr. Dalby and Mr. Gregory are members, meets at regular intervals to consider means of assisting patients after their discharge from Winford Hospital, or Redcross Street School, and also children leaving the Deaf and Partially Sighted Schools.

Cases where definite cruelty is discovered are reported to the National Society for the Prevention of Cruelty to Children, and the parents cautioned, or prosecuted by their Inspectors. The good work done by this Society is very much appreciated by the department.

XIII.—BLIND, DEAF, DEFECTIVE & EPILEPTIC CHILDREN.

The methods of ascertainment and classification of these cases have been described in previous reports. At the present time five of the Medical Officers in the department are recognised by the Board of Education for the purpose of Section 55, Education Act, 1921, and Section 31, Mental Deficiency Act, 1913.

(a) Feeble-minded Children.

The Committee maintains two schools for feeble-minded children : Redcross Street School which accommodates 199, and Orchard Place School which accommodates 88. The total number in the two schools at the end of the year was 206.

The figures are set out below :—

		<i>Redcross</i>	<i>Orchard</i>	
		<i>Street</i>	<i>Place</i>	<i>Total</i>
No. admitted during 1935	...	40	13	53
No. discharged	... ..	55	13	68
No. on register at end of year...		144	62	206

In addition, the Committee maintains two boys at Besford Court.

The number of retarded children referred by Head Teachers and investigated during the year was 173. In addition, 17 children attending Special Schools were examined at the request of their parents, who made application for them to leave school before attaining the age of sixteen.

A re-examination of the children attending these schools was carried out during the year.

Reports on the mental capacity of 32 children admitted to the care of the Public Assistance Committee, were furnished.

(b) Physically Defective Children.

At Redcross Street School, the recognised accommodation for physically defective children is 140. The cases admitted include disease of bones, joints and general nervous system, with, in addition, a number of "cardiac cripples" having congenital or rheumatic heart disease.

The children are conveyed to and from Redcross Street School in special ambulances, and the majority of the scholars have their mid-day meal in school.

Mr. Chitty, the Orthopaedic Surgeon, visits the school twice weekly to examine children and to advise as to treatment, which is carried out in the Orthopaedic Clinic attached to the School.

In addition to cases reported by the School Medical Department, a considerable number of children under school age are referred to this clinic by the Maternity and Child Welfare Department. In this way, children with crippling defects are treated during the earliest stages of the disease.

The Nurse in attendance carries out a large amount of massage and electrical treatment, and also all the necessary work in connection with the treatment of eye, ear, skin and minor ailments for both departments of the school. The total number of attendances made for treatment last year was 17,494, of which, 7,284 were for orthopaedic treatment and 10,210 for the other ailments mentioned.

Surgical boots and appliances are obtained for the children on the advice of the School Medical Officer, and a large number of repairs to apparatus are made every year through the same agency.

During the year the following admissions and discharges were made :—

No. of admissions	...	...	...	...	...	25
No. of discharges	...	...	...	...	...	42
No. on register at end of year	...	...	...	...	...	*108

* Including one boy from another authority.

The following table shows the different ailments from which the children are suffering :—

				<i>Boys.</i>	<i>Girls.</i>	<i>Total.</i>
Paralysis :	(a)	Flaccid	...	21	22	43
	(b)	Spastic	...	11	4	15
Tuberculosis :		Bones and Joints		7	3	10
Congenital abnormalities of						
		bones and joints	... ..	2	—	2
Amputations	...	...	...	1	—	1
Spinal curvature (non-tubercular)				2	6	8
Rickets	...	...	...	2	5	7
Heart Disease and Chorea	...			3	—	3
Muscular Atrophy	...	...		—	2	2
Talipes	...	...	...	3	5	8
Encephalitis	...	...	...	2	—	2
Cut Tendon	...	...	...	1	—	1
Dislocated Hip	...	...	...	1	3	4
Arthritis	...	...	...	1	—	1
Haemophilia	...	...	...	2	—	2
Thyroid Deficiency	...	...		1	—	1
Renal dwarfism	...	...		1	—	1
Petit Mal	...	...	...	1	2	3
Fragile Bones	...	...	...	—	1	1
Hydrocephalus	...	...	...	1	—	1
Meningitis	...	...	...	1	—	1
General debility	...	...		1	—	1
Asthma	...	...	...	1	—	1

(c) Delicate Children.

(1) *Knowle Open Air School.* The delicate and convalescent attend this school on the recommendation of the medical staff. A Medical Officer visits the school every week to examine special cases and ensure that each child is inspected at least once every six months. A nurse is in attendance all day for the purpose of treating minor ailments, supervising meals, etc. One afternoon a week is devoted to home visits.

Dental treatment is carried out by one of the Committee's dentists.

During 1935 the figures for the School were as follows :—

No. of admissions	...	...	...	...	...	51
No. of re-admissions	...	...	...	...	...	9
No. discharged fit for work	...	...	...	...	...	15
No. discharged fit for ordinary school	...	...	...	...	...	42
No. discharged for other reasons	...	...	...	...	...	13
Died	...	...	...	...	...	1
						—
						71
						—
No. on registers at end of 1935	...	...	...	...	...	110
Average attendance	...	...	...	...	...	99·6

(2) *Park Classes.* In St. George, Eastville and Bedminster Parks, classes for delicate children are held in the bandstands all the year round. The classes are conducted on similar lines to those of Knowle Open Air School, and have the advantage of being near to the homes of the children.

	<i>Bed.</i>	<i>East-</i>	<i>St.</i>
	<i>minster.</i>	<i>ville.</i>	<i>George.</i>
No. on the registers at the end of 1935	24	24	23
Average attendance for the year	24	22·5	19·2

Carlton Park Special School.

This Special School now has accommodation for 125 children. There were on the registers at the end of the year 111 children, of whom 63 have progressive short sight or seriously damaged vision, 15 are partially deaf and 33 totally deaf.

Although these children are in the same building and under the same Head Teacher, the three different groups are, of course, kept quite separate both educationally and socially.

(d) Deaf-mute children.

No. of admissions during 1935	...	...	...	5
No. discharged during 1935	...	...	...	8
No. on register at end of year	...	...	...	33

Of this total, 1 boy and 5 girls come from other Authorities. In addition, 2 boys are maintained at the Institution for Deaf and Dumb Children, Exeter.

(e) Partially Sighted Children.

In this Department, the children have defects of the eye or vision which make teaching by ordinary methods undesirable. At the same time, they are not cases which require attendance at a Blind School, and are not likely to take up occupations generally selected by the blind. The whole curriculum is therefore designed to prevent eye strain, the teaching is mainly oral, and every effort is made to train the children to avoid overuse of the eyes. All cases are under careful and regular supervision by the ophthalmic consultant.

No. admitted during 1935	...	...	...	13
No. discharged during 1935	...	...	...	18
No. on register at end of year	...	...	...	63

Of this total, 3 boys come from another Education Authority.

(f) Partially Deaf Children.

In the Partially Deaf Department, the children are too deaf to benefit from the instruction given at ordinary school. They still retain sufficient hearing, however, to keep them from degenerating into the deaf-mute condition, and every effort is made to retain the speaking voice by means of speech exercises and lip-reading.

No. admitted during 1935	...	...	...	1
No. discharged during 1935	...	...	...	1
No. on register at end of year	...	...	...	15

Of this total, 2 boys come from other Authorities.

(g) Blind Children.

Fourteen blind children are maintained by the Education Committee at the following school :—

Westbury Blind Asylum	...	14 (11 boys, 3 girls)
-----------------------	-----	-----------------------

In addition, one girl is maintained at North Wales School for Blind Children, Rhyl, and one boy at the Roman Catholic Blind School, Liverpool.

XIV.—FULL TIME COURSES OF HIGHER EDUCATION FOR BLIND, DEAF, DEFECTIVE AND EPILEPTIC STUDENTS.

Provision is made at the Royal School of Industry for the Blind, Westbury-on-Trym, for Higher Education blind cases. Most of the young people concerned were in the school before reaching the age of 16. The number being maintained at the school by the Local Education Authority at the end of 1935 was 7.

Payment has also been made by the Authority towards the maintenance of four adult trainees during their period of training at the Blind Workshops. As soon as their period of training is completed, they are employed as paid workers in the workshops and the financial liability is then undertaken by the Blind Persons Act Committee.

No contribution is being made at the present time towards the Higher Education of any deaf, defective or epileptic young persons, no request having been made to the Education Committee.

XV.—NURSERY SCHOOL AND CLASSES.

In November, 1935, the Castle Green Nursery Class was transferred to Quakers Friars, where accommodation for 110 children is provided.

The ultra-violet ray lamp installed in the Castle Green Nursery Class last year has been transferred to the Friars Nursery School.

The number of children on the registers at the end of 1935 was as follows :—

	<i>No. on registers.</i>		
St. Werburgh's Nursery School	125
Friars Nursery School	64

The scheme of medical inspection in these schools is for every child to be given a routine examination at intervals of six months, unless the infant's condition necessitates it being seen more frequently. The number of inspections made during the year was 344 at St. Werburgh's and 127 at Castle Green, and Quakers Friars.

Cases for action are shown in the following table :—

			<i>St. Werburgh's.</i>	<i>Castle Green and Friars Nursery.</i>
Malnutrition	...	...	1	—
Ear disease	...	...	9	4
Enlarged tonsils	...	...	6	1
Adenoids	...	...	1	—
Tonsils and adenoids	...	...	1	—
Other nose and throat conditions	...	...	13	4
Teeth	...	...	21	3
Deformities	...	...	4	1
Other defect	...	...	4	—

A considerable number of children not requiring immediate treatment is kept under constant observation.

As formerly, Dr. M. G. Hughes, Chief Assistant, Maternity and Child Welfare Department, has been responsible for the medical inspection, whilst the Health Visitors for the respective districts attend daily to treat minor ailments, etc.

XVI.—SECONDARY SCHOOLS.

There are twelve Non-Municipal and four Municipal Secondary Schools, with one Junior Technical School, in the city.

(1) Medical Inspection.

Medical inspection is only carried out in the Municipal Secondary Schools and the Junior Technical School.

All children obtaining special places in Secondary Schools are required to pass a medical examination prior to admission, and the number so examined in 1935 was 255.

All the pupils of these schools, irrespective of whether they are free-place students or otherwise, are subjected to an annual medical inspection.

Parents are invited to attend but the response is not nearly so good as in the case of elementary schools.

The number of children examined in a routine way during 1935 was 1,763, including Junior Technical pupils.

The system of following up defects is the same as that for elementary school children.

(2) Medical Treatment.

Any physical defects found are notified to the parents, who usually make arrangements with the family doctor for treatment except in the case of defects which require prolonged or specialized treatment. For instance, ailments of the eye, ear, nose and throat are usually attended to at one of the school clinics. Spectacles are as a rule provided through the School Medical Department, on the prescriptions of the Committee's Oculists.

Where remedial exercises are advisable for the rectifying of spinal curvature, flat-foot, etc., a report is sent to the Chief Organiser of Physical Training, under whose direction appropriate exercises are given in school. In a few cases the treatment is given at the Orthopaedic Clinic by one of the Remedial Gymnasts.

No differentiation is made between "special place" or fee-paying pupils who wish to avail themselves of treatment under the Authority's scheme. Whilst no charge is made for treatment at the school clinics, voluntary contributions are invited from those seeking dental treatment.

XVII.—PARENTS' PAYMENTS.

No charge is made to parents for treatment of either elementary or secondary school children but they are invited to make voluntary contributions.

The cost of spectacles and surgical boots is recovered from the parents by instalments which are collected by the Attendance Officers. The Education Committee, however, in necessitous cases may remit part or whole of the cost.

Cost of Spectacles	...	...	£115	13	3
Amount recovered	...	...	£90	10	0
Cost of Surgical appliances	...	...	£61	6	0
Amount recovered	...	...	£43	1	6

XVIII.—HEALTH EDUCATION.

The Staff of the School Medical Service do not give any direct instruction in Health Education in schools. They have, however, given lectures on Medical and Dental Work to various "Parent-Teacher" Societies.

XIX.—SPECIAL INQUIRIES.

A special inquiry into nutrition was commenced towards the end of the year in two selected areas of the city, which is referred to in Section XI., Provision of Meals.

XX.—MISCELLANEOUS.

The following report has been sent by Mr. C. K. Rossiter, Employment of Children Inspector :—

“ New Bye Laws made under the provisions of the Children and Young Persons Act 1933 came into force on 1st July, 1935.

During the year there were 1,177 cases of infringement of the above Act :—

By Employers	...	...	...	530	
By Parents	...	...	...	528	
By Street traders	...	...	...	27	
Prosecutions, etc.	...	...	...	92	
				—	1,177

These were dealt with as follows :—

Warned	...	...	...	1,085	
Prosecuted	...	...	...	17	
Employment Cards revoked	...			—	
Employment Cards refused	...			48	
Street Traders licences refused	...			17	
Entertainments refused	...	...		8	
Employers' Cards revoked	...	...		2	
				—	1,177

Registered Children.

New Bye Laws came into force 1st July, 1935, prohibiting employment under 13 years of age.

During the year 500 children between 12 and 14 years of age were registered for employment in :—

	Boys.	Girls.	
Delivery of newspapers	355	1	
Delivery of milk	11	—	
Indoor domestic work	3	—	
Errands	106	1	
Delivery of meat	21	—	
„ bread	1	—	
„ coal	1	—	
	498	2	500

Children employed between 7.0 a.m. and 8.0 a.m. on schooldays and for Saturdays and Holidays under the Bye Laws made under the Employment of Children Act, 1903.

Employment before school hours was prohibited by New Bye Laws as from 1st July, 1935.

45 children were registered for employment between 7.0 a.m. and 8.0 a.m. as follows :—

Delivery of newspapers	...	...	44
Delivery of milk	...	...	1
Indoor domestic work	...	...	—
		—	45

Children employed between 8.0 a.m. and 10.0 a.m. on Sundays under Bye Laws made under the Employment of Children Act, 1903.

Employment on Sundays was prohibited by New Bye Laws as from 1st July, 1935.

26 children were registered for employment between 8.0 a.m. and 10 a.m. on Sundays as follows :—

Delivery of newspapers	26
------------------------	-----	-----	----

The total number of children registered for employment between 4th April, 1921, and 31st December, 1935, was 8,415.

Young Persons.

New Bye Laws permitting Young Persons between the ages of 16 and 18 years to be employed and engage in street trading subject to certain restrictions came into force 1st July, 1935.

Young Persons licensed to engage in street trading—selling newspapers...	15
--	----

Entertainments.

68 children were licensed under the Children and Young Persons Act 1933, to take part in Public Entertainments.

No. of children licensed by Bristol Authority	...	...	...	10
No. of children licensed by other Authorities	...	...	...	58
			—	68

60 visits were made to the theatres, apartments and schools to ascertain that the conditions and restrictions of these licences were complied with.

4,383 children were granted permission to take part in 210 entertainments given for charitable purposes.

Halls and dressing-rooms were visited to ascertain that the general conditions under which these children were employed were satisfactory."

Fifty-eight cases were notified under the Mental Deficiency Act to the Local Control Committee during the year, and were classified as follows :—

	<i>Boys</i>	<i>Girls</i>	<i>Total</i>
(1) (i) Children incapable of receiving benefit or further benefit from instruction in a Special School :			
(a) Idiots	—	1	1
(b) Imbeciles	8	6	14
(ii) Children unable to be instructed in a Special School without detriment to the interest of other children :			
(a) Moral defectives	—	2	2
(b) Others	14	3	17
(2) Feeble-minded children notified on leaving a Special School on or before attaining the age of 16	16	8	24
(3) Feeble-minded children notified under Article 3, i.e., "special circumstances" cases	—	—	—
(4) Children who in addition to being mentally defective were blind or deaf	—	—	—
Grand Total	38	20	58

The following special medical examinations were made during the year :—

Candidates for "Special Places" in Secondary Schools	255
Children examined under Employment of Children Act	455
Teacher Exhibitioners	4
Cases examined under the Superannuation Act on appointment to or discharge from the Corporation service	165

TABLE II.

A. RETURN OF DEFECTS FOUND BY MEDICAL INSPECTION IN THE YEAR ENDED 31ST DECEMBER, 1935.

Defect or Disease.					Routine Inspections.		Special Inspections.	
					No. of Defects.		No. of Defects.	
					Requiring treatment	Requiring to be kept under observation, but <i>not</i> requiring treatment	Requiring treatment	Requiring to be kept under observation, but <i>not</i> requiring treatment
(1)					(2)	(3)	(4)	(5)
Skin	Ringworm :—							
	Scalp				2	—	14	—
	Body				—	—	76	—
	Scabies				5	—	114	—
	Impetigo				5	1	2,383	3
	Other Diseases (non-Tuberculous) ..				24	4	1,235	4
Eye	Blepharitis				10	5	239	1
	Conjunctivitis				2	1	286	2
	Keratitis				—	1	1	1
	Corneal Opacities				—	—	32	1
	Other conditions				—	5	384	23
	Defective Vision (excluding Squint)				952	231	935	62
	Squint				30	28	44	1
Ear	Defective Hearing				19	3	49	3
	Otitis Media				16	8	597	1
	Other Ear Diseases				2	3	443	12
Nose and Throat	Chronic Tonsillitis only				218	405	196	14
	Adenoids only				15	54	40	3
	Chronic Tonsillitis and Adenoids ..				218	106	518	31
	Other Conditions				23	14	876	121
	Enlarged Cervical Glands (Non-Tuberculous) ..				11	93	285	29
	Defective Speech				4	17	4	5
Heart and Circulation	Heart Disease :—							
	Organic				86	54	51	6
	Functional				9	81	25	8
	Anaemia				34	53	109	30
Lungs	Bronchitis				61	103	442	37
	Other Non-Tuberculous Diseases ..				3	2	144	67
Tuber- culosis	Pulmonary :—							
	Definite				3	2	5	3
	Suspected				35	26	24	2
	Non-pulmonary :—							
	Glands				—	8	18	—
	Bones and Joints				—	2	1	—
	Skin				—	—	—	—
	Other Forms				9	7	12	2
Nervous System	Epilepsy				3	5	9	1
	Chorea				4	11	30	5
	Other Conditions				6	18	58	17
Deformities	Rickets				1	4	2	—
	Spinal Curvature				37	27	3	1
	Other Forms				47	41	50	3
Other Defects and Diseases (excluding Uncleanliness and Dental Diseases)					102	111	5,503	847
TOTAL					1,996	1,534	15,237	1,346

TABLE II (Continued).

B.—CLASSIFICATION OF THE NUTRITION OF CHILDREN INSPECTED DURING THE YEAR IN THE ROUTINE AGE GROUPS.

Age-groups.	Number of Children Inspected	A (Excellent)		B (Normal)		C (Slightly subnormal)		D (Bad)	
		No.	%	No.	%	No.	%	No.	%
Entrants ..	5,199	1,143	22.0	3,429	65.9	612	11.8	15	0.3
Second Age-group	5,764	1,121	19.6	3,647	63.3	938	16.1	58	1.0
Third Age-group	5,593	1,904	35.1	2,992	53.5	602	10.8	35	0.6
Other Routine Inspections..	111	47	42.3	56	50.5	8	7.2	—	—
TOTAL ..	16,667	4,275	25.7	10,124	60.7	2,160	13.0	108	0.6

TABLE III.

RETURN OF ALL EXCEPTIONAL CHILDREN IN THE AREA.

BLIND CHILDREN :—

At Certified Schools for the Blind	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
18	—	—	—	18

PARTIALLY SIGHTED CHILDREN :—

At Certified Schools for the Blind	At Certified Schools for the Partially Sighted	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
—	60	4	—	—	64

DEAF CHILDREN :—

At Certified Schools for the Deaf	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
29	—	—	—	29

PARTIALLY DEAF CHILDREN :—

At Certified Schools for the Deaf	At Certified Schools for the Partially Deaf	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
—	13	2	—	1	16

TABLE III (Continued).

MENTALLY DEFECTIVE CHILDREN (FEEBLE-MINDED CHILDREN) :—

At Certified Schools for Mentally Defective Children	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
207	—	—	—	207

EPILEPTIC CHILDREN (CHILDREN SUFFERING FROM SEVERE EPILEPSY) :—

At Certified Special Schools	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
6	—	—	4	10

PHYSICALLY DEFECTIVE CHILDREN :—

(a) *Tuberculous Children.*I.—Children suffering from Pulmonary Tuberculosis
(Including pleura and intra-thoracic glands).

At Certified Special Schools	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
55	262	—	62	379

II.—Children suffering from Non-Pulmonary Tuberculosis.

(Includes Tuberculosis of all sites other than those shown in (I) above).

At Certified Special Schools	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
63	96	—	40	199

(b) *Delicate Children.*

At Certified Special Schools	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
143	257	—	17	417

(c) *Crippled Children.*

At Certified Special Schools	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
101	22	1	2	126

TABLE III (Continued).

(d) Children with Heart Disease.

At Certified Special Schools	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
60	—	—	7	67

CHILDREN SUFFERING FROM MULTIPLE DEFECTS :—

Combination of Defect	At Certified Special Schools	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
Mental Defect and Crippling ..	12	—	—	5	17
Epilepsy and Crippling ..	—	—	—	1	1
Epilepsy and Deafness ..	1	—	—	—	1
Epilepsy & Mental Defect ..	—	—	—	2	2

TABLE IV.—RETURN OF DEFECTS TREATED DURING THE YEAR ENDED 31ST DECEMBER, 1935.

TREATMENT TABLE

Group I.—Minor Ailments (excluding Uncleanliness, for which see Table VI.)

Disease or Defect. (1)	Number of Defects treated, or under treatment during the year.		
	Under the Authority's Scheme. (2)	Otherwise. (3)	Total. (4)
<i>Skin—</i>			
Ringworm Scalp—			
(i) X-Ray Treatment	7	—	7
(ii) Other	9	—	9
Ringworm Body	76	—	76
Scabies	119	—	119
Impetigo	2,385	3	2,388
Other Skin Disease	1,249	10	1,259
<i>Minor Eye Defects—</i>			
(External and other, but excluding cases falling in Group II).	940	14	954
<i>Minor Ear Defects</i>	1,051	7	1,058
<i>Miscellaneous</i>			
(e.g. minor injuries, bruises, sores, chilblains, etc.)	5,455	150	5,605
Total	11,291	184	11,475

TABLE IV—(Continued).

Group II.—Defective Vision and Squint (excluding Minor Eye Defects treated as Minor Ailments—Group I).

	Number of Defects dealt with.		
	Under the Authority's Scheme.	Otherwise.	Total.
Errors of Refraction (including squint) ..	2,779	29	2,808
Other defect or disease of the eyes (excluding those recorded in Group I)	13	—	13
Total	2,792	29	2,821

	Under the Authority's Scheme.	Otherwise.	Total.
No. of Children for whom Spectacles were :			
(a) Prescribed	1,753	29	1,782
(b) Obtained	548	1,229	1,777

Group III.—Treatment of Defects of Nose and Throat.

Number of Defects.													
Received Operative Treatment												Received other forms of Treatment. (4)	Total number treated. (5)
Under the Authority's Scheme, in Clinic or Hospital. (1)				By Private Practitioner or Hospital apart from the Authority's Scheme. (2)				Total (3)					
(i)	(ii)	(iii)	(iv)	(i)	(ii)	(iii)	(iv)	(i)	(ii)	(iii)	(iv)		
—	—	—	—	79	33	272	19	79	33	272	19	319	722

(i) Tonsils only. (ii) Adenoids only. (iii) Tonsils and adenoids. (iv) Other defects of the nose and throat.

Group IV.—Orthopaedic and Postural Defects.

	Under the Authority's Scheme. (1)			Otherwise. (2)			Total number treated
	Residential treatment with education (i)	Residential treatment without education (ii)	Non-residential treatment at an orthopaedic clinic (iii)	Residential treatment with education (i)	Residential treatment without education (ii)	Non-residential treatment at an orthopaedic clinic (iii)	
Number of Children treated	56	—	532	—	21	—	532

TABLE V.

Dental Inspection and Treatment.

(1) Number of Children inspected by the Dentist—

(a) Routine age-groups :

AGE	5	6	7	8	9	10	11	12	13	14	TOTAL
Number	143	4,218	3,873	3,241	3,327	3,045	2,790	2,481	2,534	683	26,335
(b) Specials											1,589
(c) TOTAL (Routine and Specials)											27,924
(2) Number found to require treatment											22,676
(3) Number actually treated											10,619
(4) Attendances made by children for treatment											21,307
(5) Half-days devoted to : Inspection									222		
* Treatment									1,735		
						Total					1,957
(6) Fillings : Permanent Teeth									5,664		
Temporary Teeth									95		
						Total					5,759
(7) Extractions : Permanent Teeth									4,624		
Temporary Teeth									17,810		
						TOTAL					22,434
(8) Administrations of general anaesthetics for extractions											6,994
(9) Other Operations : Permanent Teeth									2,802		
Temporary Teeth									523		
						Total					3,325

*In addition to this number, the Dentists devoted 206 sessions to the treatment of mothers and young children under the scheme of the Education Committee and the Maternity and Child Welfare Committee.

TABLE VI.

Uncleanliness and Verminous Conditions.

(1) Average number of visits per school made during the year by School Nurses ..	6
(2) Total number of examinations of children in the Schools by School Nurses ..	106,090
(3) Number of <i>individual</i> children found unclean	3,708
(4) Number of children cleansed under arrangements made by the Local Education Authority .. .. .	..
(5) Number of cases in which legal proceedings were taken :—	
(a) Under the Education Act, 1921 .. .. .	..
(b) Under School Attendance Byelaws	1

TABLE I. (SECONDARY).

NUMBER OF CHILDREN INSPECTED 1ST JANUARY, 1935, TO
31ST DECEMBER, 1935.

A.—ROUTINE MEDICAL INSPECTION.

Age	10	11	12	13	14	15	16	17	18	19	20	Grand Total
Boys	63	174	200	249	232	155	60	13	1	—	—	1,147
Girls	42	102	99	102	148	92	28	3	—	—	—	616
Totals	105	276	299	351	380	247	88	16	1	—	—	1,763

B.—SPECIAL INSPECTIONS.

Re-examinations (*i.e.*, No. of children re-examined) 137

TABLE II. SUMMARY OF TREATMENT OF DEFECTS.

Defect or Disease.	Number of Children Treated.		
	Under Local Education Authority's Scheme.	Otherwise.	Total.
Skin	5	—	5
Visual Defects	169	21	190
Nose and Throat	16	3	19
Eye Disease	1	—	1
Deformities	18	—	18
Miscellaneous	10	2	12
Total	219	26	245

TABLE III. (SECONDARY).

RETURN OF DEFECTS FOUND IN THE COURSE OF MEDICAL INSPECTION IN 1935.

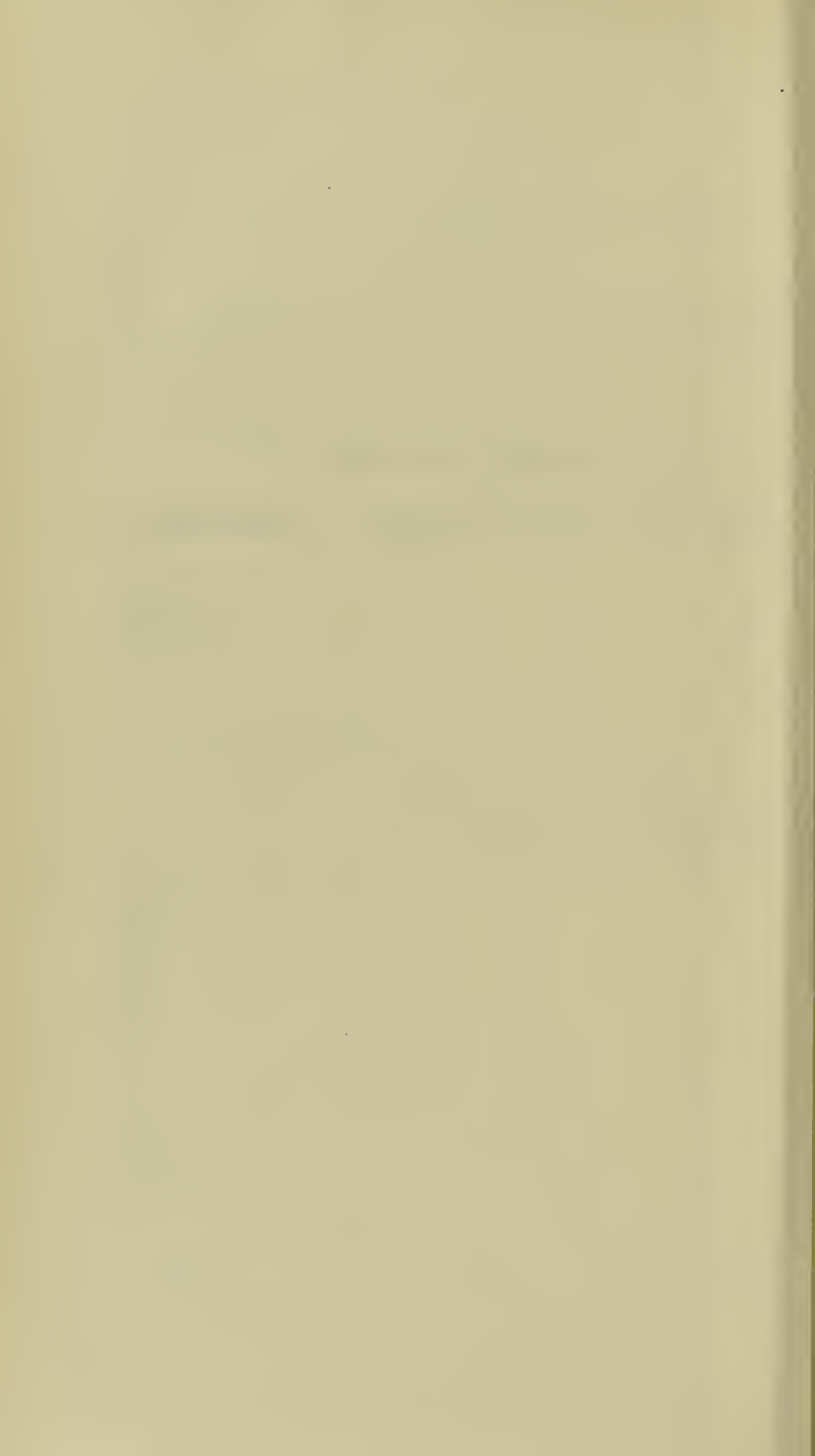
Defect or Disease.	Routine Inspections.	
	Number referred for treatment.	Number requiring to be kept under observation, but not requiring treatment.
1	2	3
Malnutrition	—	—
Skin and Hair	3	—
Teeth	176	9
Nose and Throat	19	2
Glands	—	1
External Eye Disease	1	—
Vision	207	4
Colour Sense	—	—
Ear Disease	5	—
Hearing	—	—
Speech	—	—
Thorax	—	—
Heart and Circulation	1	—
Anaemia	—	—
Lungs	—	1
Nervous System—Headache	—	—
Overstrain	—	1
Indigestion	—	1
Constipation	—	—
Spinal Curvature	7	—
Flat Foot	9	2
Other Defect	2	4
Catamenia	—	1

Number of Children		Percentage of Children found to require Treatment.
Inspected.	Found to require Treatment.	
1,763	*241	13·7

* Excluding Uncleanliness and Dental Disease.

1935.

**REPORT OF THE
MENTAL DEFICIENCY ACTS COMMITTEE.**



CITY AND COUNTY OF BRISTOL.

MENTAL DEFICIENCY ACTS COMMITTEE.

Council Members :

The Rt. Hon. The Lord Mayor (Alderman C. T. Budgett).
Alderman Frank Sheppard, O.B.E., M.A., J.P. (Chairman).
Alderman W. H. Byrt, J.P.
R. C. Davies, Esq.
A. F. Moon, Esq., J.P.
W. H. Nott, Esq.
W. S. Scull, Esq.
F. A. Webber, Esq.
W. T. Wright, Esq.

Non-Council Members :

F. J. Burgess, Esq.
Mrs. Nunn.
Mrs. Pullin.

Josiah Green, Esq., *Town Clerk*.
E. M. Tapson, Esq., F.S.A.A., F.I.M.T.A., *City Treasurer*.
R. H. Parry, M.D., B.S., M.R.C.P. Lond., D.P.H.,
Medical Officer of Health.

Officers of the Colony.

John F. Lyons, L.R.C.P. & S.I., D.P.H., D.P.M.,
Medical Superintendent.
John Fellows, *Steward*.
Miss Margaret E. Hogarth, *Matron*.
Rev. A. Walmsley, *Chaplain* (Church of England).
Rev. C. Fenely, *Chaplain* (Nonconformist).
Rev. Father B. J. Ellis, *Chaplain* (Roman Catholic).

Consulting Staff.

R. R. Garden, Esq., M.A., M.B., Ch.B., D.P.H., D.O.M.S. Lond.
G. R. Scarff, Esq., M.B., Ch.B., F.R.C.S. Edin.
H. M. S. Chitty, Esq., M.B., M.S. Lond., F.R.C.S. Eng., L.R.C.P. Lond.
J. A. Nixon, Esq., C.M.G., B.A., M.D. Camb., F.R.C.P. Lond.

MENTAL DEFICIENCY ACTS, 1913-1927.

The Mental Deficiency Regulations, 1935, require the local authority to make a report to the Board of Control for the year ended on the 31st December preceding, on the performance of their duties under the Acts : and also require the Committee to report to the local authority as to the condition of the institutions managed by them.

The following report is in respect of the year 1935.

Part I deals with Hortham Colony, and as this is the first report made in respect of the colony it has been thought desirable to make it more comprehensive than otherwise would be the case.

Part II deals with the domiciliary work connected with defectives carried out by the Medical Officer of Health.

Article 54 of the Regulations provides also for the submission of financial statements for the year ending the 31st March. A statement prepared by the City Treasurer shewing the expenditure of the Council in respect of mental deficiency is contained in the Abstract of Accounts of the Corporation.

F. SHEPPARD, *Chairman.*

The Council House,
Bristol.

May, 1936.

REPORT FOR THE YEAR 1935.

PART I.

Report of the Medical Superintendent.

HORTHAM COLONY.

*To the Chairman and Members of the
Mental Deficiency Acts Committee.*

Mr. Chairman, Ladies and Gentlemen,

I have the honour to submit my report for the year ended the 31st December, 1935.

In this, the first Annual Report, it will be of interest to make reference to the earlier history of the Hortham Colony, the first complete Colony opened since the Mental Deficiency Act of 1913 was placed upon the statute book.

Until 1913 there was no law which imposed an obligation on local authorities to provide special accommodation for mental defectives. Progress which might have followed the Mental Deficiency Act, 1913, was prevented by the outbreak of war and it was not until some years later that general action was taken to meet the obligations imposed by the Act. By 1924, however, such progress had been made in Bristol that many sites had been inspected and after long and careful consideration, Hortham Farm, Almondsbury, was selected. The difficulties in selecting a suitable site were many. The land had to permit of a practical lay-out of buildings, the district had to be rural, the means of access reasonable, and adequate water supply had to be available. The site selected fulfils all these requirements.

The accommodation provided includes 10 villas of 52 beds, 1 bungalow of 40 beds and a hospital with 48 beds, together with central hall, school, etc. This allows of a classification of male and female patients into three groups of adults, one of adolescents, one of children, and one mixed group of children mostly of the chair and cot type.

In March, 1931, the Committee appointed a Medical Superintendent to advise on the staffing and equipping of the Colony prior to the reception of patients. During the summer of that year the matron, steward, and engineer were appointed and these officers had the organisation so advanced that on 9th November, 1931, the first group of resident staff took up duty followed a week later by the admission of patients.

On Friday, 29th April, 1932, the colony was officially opened by Sir Edward Hilton Young, at that time Minister of Health.

In the intervening years organisation has steadily progressed until now we are fully established and are working to our full complement of patients. The following figures show the yearly progress in admissions :—

		Males.	Females.	Total.
1931	...	37	46	83
1932	...	210	193	403
1933	...	271	258	529
1934	...	311	296	607
1935	...	347	329	676

Having referred to the earlier history of the colony this report will now be confined to the year actually under review. The following statistical information will be of interest :—

		M.	W.	B.	G.	Total
1.	Number of patients resident ...	180	218	119	68	585
	" " on licence ...	40	39	9	2	90
	" " at Southmead	3	2	2	—	7
	" " at Mental Hospital	2	1	—	—	3
		225	260	130	70	685
	Bristol cases : Resident ...	97	109	75	38	319
	On licence, &c. ...	24	30	8	1	63
	Out County cases : Resident ...	83	109	44	30	266
	On licence, &c. ...	21	12	3	1	37
2.	<i>Classification :</i>					
	Idiots	2	2	14	7	25
	Imbeciles	30	16	58	37	141
	Feeble-minded	185	233	56	26	500
	Moral Defectives (Mental ratio not applicable)	8	9	2	—	19
		225	260	130	70	685
3.	<i>Patients granted leave on licence :</i>					
		Males.	Females.	Total		
	To Relatives	28	8	36		
	To Hostels, etc.	1	11	12		
	Elsewhere	10	17	27		
		39	36	75		
4.	<i>Returned from Licence :</i>					
	From Relatives	9	6	15		
	From Hostels, tec.	—	4	4		
	From elsewhere	2	6	8		
		11	16	27		

5. <i>Written off Books whilst on Licence :</i>							
				Males.	Females.	Total	
To Relatives	...	...	...	3	—	3	
To Hostels	...	...	...	1	5	6	
				—	—	—	
				4	5	9	
				—	—	—	
6. <i>Admissions :</i>							
New admissions	...	...	...	50	44	94	
Transferred from other Institutions	...	...	...	13	12	25	
				—	—	—	
				63	56	119	
				—	—	—	
7. <i>Cases of Infectious and other Disease :</i>							
Scarlet Fever	...	...	...	11	—	11	
Diphtheria	...	...	...	14	16	30	
Dysentery...	...	...	...	—	1	1	
Broncho-pneumonia	...	...	...	1	—	1	
Lobar-pneumonia	...	...	...	—	1	1	
Pulmonary T.B.	...	...	...	1	—	1	
Whooping Cough	...	...	...	17	2	19	
				—	—	—	
				44	20	64	
				—	—	—	
8. <i>Discharged and removed</i>							
Deaths	...	...	...	24	18	42	
	...	...	...	2	5	7	
				—	—	—	
				26	23	49	
				—	—	—	
<i>Causes of death :</i>							
Lobar pneumonia	...	...	...	—	2	2	
Whooping cough	...	...	...	1	—	1	
Epilepsy	...	...	...	1	1	2	
Broncho-pneumonia	...	...	...	—	1	1	
Generalized T.B.	...	...	...	1	1	1	

Agreements for the reception and maintenance of patients have been entered into with various Authorities, and it will be noted that of the number of cases on the books 303 are from this source.

Licence.

39 males and 36 females have been granted licence ; 11 males and 16 females have been returned from licence. Of this number, 4 males and 3 females were from licences granted during previous years, which means that out of the 75 granted licences during the present year, 20 were returned.

Every endeavour is made to find local employment for patients, and though up to the present this has met with a very limited success, there is evidence of an increasing demand especially for female labour (domestic workers). There are, at present, 6 patients so employed and they are encouraged to return to the colony in their off-duty time which is, as far as possible, arranged to coincide with the social functions of the Colony. Male patients have proved more difficult to place locally but during the summer months there

has been a demand for daily labour from local farms, and, where granted, this has proved very satisfactory. Constant *daily* work has been found for two male patients one on a poultry farm and the other housework. They go out to work each morning and return to the colony for meals.

Health of the patients.

During the year the health of the patients has been very satisfactory. The majority have shown marked physical improvement. Sporadic outbreaks of diphtheria and scarlet fever have occurred and earlier in the year there was a mild outbreak of whooping cough. The outbreaks of diphtheria and scarlet fever have been mostly of the milder type and no deaths have occurred from either of these causes. All the patients have been Schick tested and those found to be positive have been immunized against diphtheria. In addition all patients under 16 years of age have been Dick tested and where found positive have been immunized against scarlet fever. Dick tests and Schick tests, and where necessary, immunization, have been carried out in cases of new admissions.

In May, 1933, your Committee appointed a staff of consultant visiting specialists and their assistance has been of marked value in maintaining the health of the patients. All operations and X-ray examinations have been carried out at Southmead Hospital.

Conduct of patients.

Privileges, which include recreation and the weekly issue of cigarettes to male patients over 16 years of age and sweets to others, are an aid to discipline, and it is on the play of these that we have to rely.

The conduct of the patients has been very good and apart from those minor lapses which are associated with instability there has been no real trouble. Patients who have proved troublesome on admission have soon settled down to the life of the colony and in many instances have become trusted patients. Glass breaking, which was a frequent form of emotional outlet, has happily diminished and is now a rare occurrence.

Absconders.

It is a tribute to the policy of "open doors" that so little trouble has been experienced with absconders. No patient is made to feel a prisoner; all doors are open from the time the day staff come on duty until every recreation is finished. The grounds are marked with "out of bounds" notices, and, with reasonable restrictions the patients are free to walk around the grounds in the vicinity of the lodges. Only in the early months before the newcomers had settled down was there any marked restlessness. Attempts to escape are now rare and are usually made by the unstable type, who, as a rule, have a desire more for display than any real attempt to get away. During the year 6 patients have absconded, with absences varying from 5 days to one of 12 weeks. There were, in addition, isolated attempts, some more or less successful, but all were returned within 48 hours.

Occupational Therapy.

Although the main object of our industries is the training of the patients, it has been possible to keep up a very satisfactory rate of production, as may be judged from the reports under separate headings. It is remarkable the interest the patients display in their work and how proficient some of them are. In the boot and shoe shop there are four patients who can make an entire boot under supervision and practically all can do satisfactory repair work. In the brush and mat shop there are many who can make all kinds of brushes and coir mats and the remainder are usefully employed in the more stereotyped work. A large portion of repair work is done in the joinery shop by the patients, some of whom have become quite skilled in the craft. In the tailoring department there has also been a very satisfactory response to the training in its various sections, machine work, board work, etc. Patients engaged on the garden have done practically the entire work of the laying out of the lawns and the general upkeep of the gardens. On the farm, also, the male patients have done an amount of work in the preparation of the ground, sowing of crops and care of the stock, etc. It is regrettable that it has not been found possible to find employment for many of those patients who have become skilled in their crafts but the demand appears to be more for the unskilled type of farm and general labourer.

Of the female patients, many are expert needlewomen and are of great service in this capacity. The entire laundry work is done by patients under the supervision of a laundress. The system which is adopted as far as possible with females is to change their occupation three or four times in the first year. By this means they obtain an all-round experience and it affords an opportunity of finding out the work to which they are best suited and of then placing them permanently in it.

Tailor.

Staff : 1 instructor, 1 assistant instructor,
15 patients.

In this workshop it has been possible to meet the bulk of our tailoring requirements which have included the making of patients' clothing and staff uniforms ; the pressing, repairing of and alterations to male clothing. The number of manufactured articles include 702 articles of clothing, 113 articles of uniform and 350 miscellaneous articles. Repairs have included 4,434 garments and 188 sundries.

Bootmaker.

Staff : 1 instructor, 1 assistant instructor,
20 patients.

All our boots and shoes, including surgical boots, have been made and repaired in this department. It is interesting to note that in addition to our own requirements we have been able to supply those of other Corporation departments. 1,276 pairs of boots and shoes were made during the year and 7,506 repairs carried out.

Brush and Matmaking.

Staff : 1 instructor, 1 assistant instructor,
13 patients.

A large volume of work has been dealt with in this department. A variety of brushes and brooms are made and various Committees of the Corporation secure their requirements from the Colony. Coir mats of varying sizes are made for stock and to order. 7,775 brooms and brushes and 121 mats have been produced and 24 repairs done.

Joinery.

Staff : 1 instructor, 10 patients.

A considerable amount of repair and maintenance work including the making of many articles required for use and furnishing in the colony has been done. During the year 5 garages were constructed and erected by this department. Another feature of this work is toymaking and one patient in particular has shown great skill and ingenuity in this direction. 316 articles have been produced and 591 repairs done during the year.

Maintenance Department.

12 patients.

In this section the maintenance staff have the assistance of 12 patients and a variety of occupations are thus provided, i.e., painting, plumbing, carpentry, etc. Each artisan has one or two patients allotted to him and it has been found that this association has proved very instructive, many of the patients being quite handy at the work.

Bakery.

Staff : 1 instructor, 3 patients.

The output from this department has met all the colony requirements for bread, cake, buns, scones, fancies, etc.

Gardens.

Staff : 1 gardener, 1 assistant gardener,
32 patients.

Great progress has been made in this direction. The grounds which were in a rough condition at the beginning are gradually taking shape. The lawns of the main drive are now practically completed. Grass tennis courts have been laid down and a start has been made on the construction of a bowling green.

Farm.

Staff : 1 farm bailiff, 2 farm labourers,
18 patients.

The activities cover the rearing of pigs and poultry for use in the colony and for sale, and an area of 24 acres is under cultivation. During the year it has been possible to provide the bulk of our requirements from this source. Conditions have not been favourable to our potato crop which, in common with other local producers, has been poor. The crop of the preceding year was excellent and

carried us up to April. Meadows which were light and of poor quality were sufficient to meet our needs for the bedding and feeding of the livestock. There is still a large area of uncultivated land which is being gradually brought into production but this must of necessity be a slow process owing to the impoverished state of the ground and the prevalence of weeds. In the latter months of the year ten yearling cattle were purchased mainly with a view to improving the land.

Ward Work and General Duties.

30 patients.

Five patients are allotted to each lodge for domestic duties, and four to the Central Hall where there is much moving of chairs to be done in addition to polishing and cleaning. General duties comprise porters, sanitary men and one messenger.

Handicrafts.

Staff : 1 instructress, 44 patients.

Various articles of utility are made in this department, principal among which are woollen rugs and mats, lampshades, fireside stools, fancy work, leather gloves, etc. Knitting machines have been installed and a proportion of the men's socks have been made. The number of articles produced was 628 and 12,522 repairs were carried out.

Sewing Room.

Staff : 1 sempstress and 1 assistant sempstress,
36 patients.

The articles made during the year include all staff uniforms and about fifty per cent. of the female patients' clothing. In addition, all repairs to male clothing (except repairs to suits) and to female clothing, have been done. The total number of articles produced was 7,678 and there were 17,112 repairs.

Laundry.

Staff : 1 laundress, 1 assistant laundress, 1 porter,
and 1 maid, 41 patients.

The number of articles washed during the year was 549,626 for patients, and 67,249 for staff. The entire work of the department, apart from the operation of machinery, is done by the patients many of whom have quite a good all-round experience.

Domestic duties.

69 patients.

This work absorbs a large proportion of female labour. Each lodge is allotted five patients for the purpose and the general kitchen, nurses' home and official block have all to be supplied. Every endeavour is made to give an all-round experience in this training as it is the type of employment for which there is a demand. So far it has not been found possible to give instruction in plain cooking which would be a great recommendation but it is hoped to include this work in the training.

School Training.

Staff : 1 teacher, 5 female nurses, 1 male nurse,
and 6 patients.

Average daily attendance : 140.

The patients are graded in seven different classes. The lowest has 20 low grade imbeciles and of the two highest, 26 boys, ages 11 to 16 are in one and 15 girls, ages 11 to 16 are in the other. The training given varies from habit training, play, etc., in the lowest grades to a modified normal school standard for the highest grades whose subjects include reading, writing, arithmetic, dictation, script and handwork, basket making, etc. Physical training classes are held daily; folk dancing, singing and concert work which includes simple short plays are provided. The progress of the patients has been satisfactory, all grades responding to training in varying degrees. The high grade classes have done very well. The introduction of Scouting and Guiding has improved the standard of conduct and there is evidence of a team spirit amongst the patients which has proved helpful in the handicraft and scholastic side of the training.

Physical Training.

Open air physical training classes are held daily for males and females under a qualified physical training instructor. In the case of the males this has been going on from an early date and it is very noticeable the toning up effect it has had, the men's marching on the church parade and on ceremonials being particularly good. The females have not as yet had the same opportunities but there is already an obvious improvement. Gymnastic classes have been held in the Central Hall and some of the patients are quite good at the various exercises.

Scouts and Guides.

207th City of Bristol 1st Hortham Group Scouts.

Strength : 70 scouts and 4 officers.

1st Hortham Company Girl Guides.

Strength : 16 guides and 1 officer.

2nd Hortham Company Girl Guides.

Strength : 25 guides and 2 officers.

The movement, which was started in March, 1934, has made steady progress. Weekly meetings, which include debates, first-aid training, signalling, physical training, etc., are held for all members and church parades on which the colours are carried are held on the third Sunday of each month. In an inter-troop competition with normal scouts in September, the colony troop obtained first and second place and were congratulated by the County Commissioner on their fine performance. Twelve 2nd class certificates were obtained during the year by scouts.

Religious services.

Three services have been held on Sundays in the Central Hall, Church of England, Nonconformist, and Roman Catholic, and

instruction given during the week by the Church of England Chaplain. Holy Communion has been celebrated on the Second Sunday of each month. Weekly practices have been held by the choir which is now under the direction of Mr. Hayward. The provision of separate accommodation for religious services has been considered and it is hoped that your Committee will be able to make provision in the future.

Recreation.

Indoor and outdoor recreations have been provided for both males and females and as far as possible mixed functions have been arranged. An early start was made with mixed dances which have been held weekly and are very popular. Many of the patients are now good dancers and all have acquired at least the rudiments of etiquette. Apart from this the association has proved a stimulus to a pride in personal appearance, some of the females displaying a taste and care which is very creditable, and the men are well groomed. The New Year fancy dress dance was a great success many of the costumes being original and amusing. Other indoor recreations provided include mixed badminton, occasional whist drives, table tennis, billiards, bagatelle, cards, chess, gramophones, pianos, etc. A library of 200 volumes under the charge of the chief male nurse has been introduced during the year. During the winter months a number of concerts were provided by four visiting concert parties, and there were also 11 cinema programmes which were very popular over the same period.

Outdoor sports have taken a no less prominent part in the life of the colony. Cricket, hockey and basket ball are available for female patients and cricket and football for the males, with mixed tennis in the summer months. A very welcome innovation has been the provision of a putting green for the male patients and staff. The female hockey team which is composed of patients and staff has had a very successful season and the male cricket team have won practically all their matches. The football team, which is entered in the Bristol and Suburban League, has not been very successful but are showing signs of improvement. Walking and shopping parties have been arranged weekly for male and female patients.

The annual sports were held on 15th August and were a great success. A varied programme of athletics produced keen competition especially for the Colony Cup for the best aggregate result in the female events. The outstanding feature of the day was the display of physical training by male patients and country dancing by the children.

The committee provided facilities for a children's outing and on 8th July, 106 children and 8 staff went to Weston-super-Mare. It was good to see the joy of the children who had a really wonderful day on the sands.

Camp.

It was not found possible to make arrangements for camping as in previous years when parties of males and females each had a week in the J.O.C. Camp at Brean. This year, however, as an alternative, your committee purchased five bell tents and one

marquee and from May to September 50 patients slept under canvas in the sports field. This novelty was much appreciated and the privilege greatly respected. There was no occasion for disciplinary action over the whole period and the tidiness and general upkeep of the tents was very creditable.

Jubilee day was celebrated with outdoor games followed by a dance. Souvenir beakers with chocolates were presented to the children.

Christmas festivities extended over a period of several days and included dances, children's party, and ward parties. Through the aid of your special grant it was possible to provide each patient with a present on Christmas morning.

Parole.

During the year a parole system was started for male patients which has worked well. Parties of three patients are allowed out three times weekly from 2 to 5 p.m. Ordinarily, this is within circumscribed limits but on special application it is extended in suitable cases.

Leave.

Leave has been granted during the year to suitable cases as follows :

Easter.	18th to 24th April	...	42 patients.
Whitsun.	7th to 14th June	...	53 patients.
Summer.	2nd to 9th August	...	115 patients.
Christmas.	23rd to 30th December		95 patients.

Out-patient department.

A well-equipped out-patient department has been organised in conjunction with the hospital and the arrangement has proved very satisfactory and economical. Sick parades at which all suitable cases attend are held at 9.30 a.m. daily. In addition there are three sessions daily at which all dressings and special treatment such as sun ray, radiant heat, etc., are given under the supervision of a fully trained sister. Weekly dental sessions are also held.

Board of Control.

Drs. J. Adamson and Isobel Wilson of the Board of Control visited the colony in February and made a satisfactory report. The visit coincided with our first distribution of Royal Medico-Psychological Association certificates and the commissioners kindly officiated at the function.

Staff.

The health of the female staff has been very good, the only serious illnesses during the year being two cases of diphtheria and one case of pneumonia which necessitated absences of nine weeks, four weeks and seven weeks respectively. There were also four cases of mild jaundice which caused short absences but apart from this there was little loss of time through sickness.

Amongst the male staff the proportion of sickness was higher and absences varying from ten days to one of 80 days and one of 87 days occurred.

Owing to the presence of diphtheria in the colony the staff were given the opportunity of being Schick tested. Of these, 3 males and 15 females were found positive and duly immunized.

During the year 19 candidates out of 26 were successful in the preliminary examination of the Royal Medico-Psychological Association and 15 out of 19 were successful in obtaining the final certificate, one candidate obtaining a distinction. One candidate obtained the final certificate of the General Nursing Council (Mental Deficiency Section).

Recreation in the form of dances, whist drives, badminton and tennis has been arranged by the staff social club. Badminton and tennis matches with outside teams are very popular, and are, as far as possible, arranged weekly. Table tennis and wireless are available in the nurses' home.

The staff orchestra hold regular practices and provide music for the patients' dances and staff functions. Your Committee provided further instruments during the year which has contributed largely to the success of this section.

The Deputy Chief Male Nurse resigned in December, having obtained an appointment as Chief Male Nurse at Brentry Colony.

Buildings.

All the buildings in the colony have been maintained in a satisfactory condition.

Miscellaneous.

The maintenance rate for the financial year 1935/6 has been approved by the Minister of Health at 36/6 per week.

The work of widening Hortham Lane has been commenced by the Gloucestershire County Council at a cost to the Mental Deficiency Acts Committee of £1,500.

A dietary scale and arrangement of menus based largely on the findings of the Departmental Committee on Dietaries in Mental Hospitals has been in operation for some time past. By a succession of four separate weekly menus the possibility of monotony has been excluded.

Cigarette and chocolate slot machines have been placed in the Central Hall, Nurses' Home and at the main gate and are well patronised.

A messroom for the male staff was provided during the year.

In conclusion, I would like to thank you, Mr. Chairman, Ladies and Gentlemen, for your interest and helpful assistance in all that relates to the work of the colony. By your advice and experience you have helped in solving the many intricate problems of our evolutionary period and made our work of organisation the easier.

A word of praise is due to your staff who have worked loyally for, and displayed an interest in, the welfare of the colony which has been both helpful and gratifying.

J. F. LYONS,

Medical Superintendent.

Hortham Colony,
May, 1936.

PART II.*Report of the Medical Officer of Health.*

*To the Chairman and Members of the
Mental Deficiency Acts Committee.*

I have the honour to submit the following report on the domiciliary work of the Committee under the Mental Deficiency Acts, 1913—1927, for the year ended the 31st December, 1935.

Administrative arrangements.

The administrative arrangements for the discharge of the Council's duties under the Mental Deficiency Acts 1913-1927 apart from the control of Hortham Colony and the collection of contributions towards patients' maintenance is carried out by specially appointed officers under the supervision of the Medical Officer of Health.

Regulations.

In exercise of the powers conferred upon him under the Mental Deficiency Acts, the Minister of Health on the 5th June, 1935, made regulations entitled "The Mental Deficiency Regulations 1935," the main object of which was to make substantive the earlier provisional regulations made by the Secretary of State.

Ascertainment.

The new cases which the Local Authority were called upon to deal with during 1935 under the Mental Deficiency Acts were :—

<i>Number.</i>		<i>Source of information.</i>
57	...	Local Education Authority.
18	...	Public Assistance Committee.
21	...	Miscellaneous.
5	...	Charged with offences before a court of criminal jurisdiction (sec. 8).
—		
Total	101	
—		

The following statement shows the number of cases ascertained and dealt with during the last five years :—

1931	...	118
1932	...	121
1933	...	92
1934	...	82
1935	...	101

Of the 101 cases ascertained and dealt with in 1935, 42 were sent to Institutions, 5 placed under guardianship and 54 placed under supervision.

The total number of defectives on the 31st December, 1935, who had been ascertained by the Council to be subject to be dealt with or who might become subject to be dealt with was 1,666. This figure excludes 206 children on the registers of the Council's special schools for the mentally defective.

The ratio of ascertained cases per 1,000 of the population of Bristol is 4·04.

Supervision.

The supervision of mentally defective persons in their homes is carried out by means of systematic visits paid by the specially appointed officers of the Corporation and by Health Visitors under the supervision of Mr. W. E. Price, the Supervising Officer.

At the 31st December, 1935, the number of cases under supervision was 754.

Voluntary visits are also made to defective persons known to the Authority who are not subject to be dealt with under the Mental Deficiency Acts and also to mental defectives discharged from Order.

Efforts are made to place defectives under supervision in suitable employment where possible.

Guardianship.

During 1935, 9 cases were placed under guardianship, and 102 were granted leave of absence from Hortham Colony and other Institutions with a view to guardianship. On the 31st December, 1935, the number of defectives under guardianship was 56, some of whom are in employment.

Occupation centres.

Under the Mental Deficiency Act 1927, it is the duty of the Local Authority to provide training for defectives under supervision and guardianship. The following occupation centres have been established by the Council for defectives of all ages :—

Occupation Centre.	Sessions per week.	Average number on register.
Park Row :		
Adult males ...	5	75
Juveniles ...	5	29
Redfield—females ...	4 (half day)	29
Bedminster—females	3 (half day)	8

The articles made at the Occupation Centres are disposed of as far as possible and the sums realised placed to the credit of the Corporation.

The medical inspection and treatment of defectives attending the occupation centres is carried out by the Medical Officer of Health.

At the 31st December, 1935, the number of defectives for which the Council was responsible was 1,387 who are dealt with as follows :

In institutions	...	...	567
Under supervision	...	...	754
Under guardianship	...	...	56
Cases pending	...	...	10
Total	...	...	<hr/>1,387 <hr/>

The following is a list of the institutions in which cases are being maintained by the Corporation :—

Hortham Colony	...	...	...	382
Stapleton Institution, Bristol	...	...	...	112
Chasefield Laundry Home, Bristol	...	...	...	15
The Hermitage, Uckfield, Sussex	...	...	...	2
Stoke Park Colony, Bristol	...	...	...	7
Eagle House, Mitcham, Surrey	...	...	...	1
St. Mary's Home, Painswick	...	...	...	1
Besford Court, Worcester	...	...	...	5
Royal Fort Hostel, Bristol	...	...	...	15
Royal Hostel, Elstead	...	...	...	2
The Old Rectory, Bath	...	...	...	3
Royal Western Counties Institution, Starcross	...	...	...	1
The Friars, Bridgwater	...	...	...	1
Rampton State Institution, Retford	...	...	...	20
Total	...	...	...	<hr/>567 <hr/>

Discharges.

Three defectives were discharged from Order by the Board of Control or by operation of law during the year.

R. H. PARRY,

Medical Officer of Health.

PUBLIC HEALTH DEPARTMENT,

BRISTOL,

May, 1936.

PART III.

Finance.

1. The financial transactions of the Mental Deficiency Acts Committee are set out fully in the City Treasurer's Abstract of Accounts to 31st March issued annually.
2. The net expenditure of the Committee is not increasing as is the number of defectives for whom the Council are responsible. The following will give a comparison for the past five years :—

Year.	No. of defectives chargeable to Bristol C.B.	Net expenditure of Committee.
		£
1931-2	1,186	46,958
1932-3	1,241	46,512
1933-4	1,318	42,483
1934-5	1,341	42,144
1935-6	1,387	41,681

The reduction in expenditure is due to the accommodation at Hortham Colony being more fully utilised each year since 1931-2.

3. In providing and equipping the Colony at Hortham, the Committee have incurred capital expenditure on :—

	£
(a) Acquisition of land	4,883
(b) Erection of buildings	182,509
(c) Equipment and furniture	12,712
(a) Additional workshop (1935/6) ...	492
	<hr/>
	£200,596
	<hr/>

4. The average daily occupation of this Colony during 1935-6 was 575, being 94 per cent. of the available accommodation. The cost per patient per week (calculated by dividing the total annual cost of the Colony by the number of patient weeks) was £1 14s. 10d., compared with £1 15s. 2d. in the previous year :—

Year :	Cost per patient per week :
1932-3	... £2 7 5
1933-4	... £1 17 10
1934-5	... £1 15 2
1935-6	... £1 14 10

5. The revenue expenditure of the Committee for the year ended 31st March, 1936 was :—

(i) <i>Maintenance of Defectives—</i>	£	£	£
(a) At Hortham Colony	52,401		
<i>Deduct</i> cost of main- ing cases of other local authorities ...	24,856		
	<hr/>	27,545	
(b) At other Institutions and under Guardians		11,114	
		<hr/>	38,659
(ii) <i>Provision of Occupation Centres</i>			2,113
(iii) <i>Supervision and General Expenses</i>			2,146
			<hr/>
			£42,918

INCOME.

(iv) Contributions by parents and others towards cost of maintenance—under voluntary agree- ments, etc.	1,237
	<hr/>
<i>Net charge on General Rate Fund</i> ...	£41,681
	<hr/>
